UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
WG-15J

Mr. Eric Oswald, Director
Drinking Water and Environmental Health Division
Michigan Department of Environment Great Lakes, and Energy
Constitution Hall, 4 South
525 West Allegan Street
PO Box 30817
Lansing, Michigan 48909-8311

RE: Fiscal Year (FY) 2020 End-of-Year Evaluation for the Public Water System Supervision Program

Dear Mr. Oswald:

This letter transmits the Public Water System Supervision (PWSS) program's end-of-year enclosed evaluation, which documents activities performed by both Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the U.S. Environmental Protection Agency under the FY 2020 PWSS grant workplan.

EPA appreciates EGLE's extensive efforts to advance effective changes to the drinking water program, including efforts to strengthen Lead and Copper Rule implementation and work toward the adoption of PFAS regulations. During FY 2020, Michigan exceeded EPA's drinking water program goal to reduce the number of community water systems (CWS) that are out of compliance with health-based standards by 25%, as Michigan currently has only 17 CWS systems out of compliance. In addition, progress is being made to address the findings of the 2016 File Review Report and Corrective Action Plan (CAP). To date, approximately 30 of the 135 findings in the CAP remain to be completed. Additionally, during FY 2020, EGLE faced challenges in several areas, such as data management, automating compliance determinations, complete reporting for the noncommunity water system (NCWS) program, implementation of Public Notification Rule for NCWS, and issuing Tier 3 Public Notification violations at both CWS and NCWS.

We look forward to working with EGLE to address these remaining challenges and appreciate the strong relationship we have with your program. If you have questions or concerns regarding this report, you may contact Candice Bauer of my staff at 312-353-2106.

Sincerely,

Digitally signed by TERA FONG
Date: 2021.06.29 16:42:02 -05'00'

Tera L. Fong
Division Director, Water Division

Enclosure

cc: George Krisztian, MI EGLE

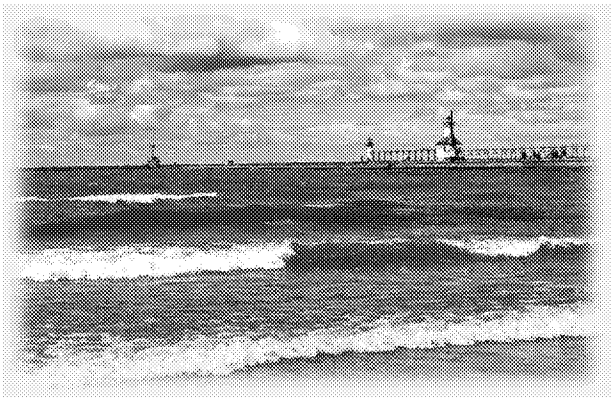
Michigan Department of Environment, Great Lakes, and Energy

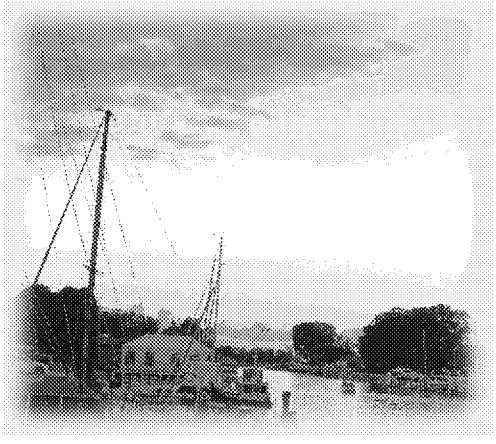
Public Water System Supervision Program

FY 2020 PWSS Program End-of-Year Evaluation
October 1, 2019 through September 30, 2020

Prepared by EPA Region 5 and Reviewed by
Michigan Department of Environment, Great Lakes, and Energy

June 2021





DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)
PUBLIC WATER SYSTEM SUPERVISION PROGRAM
FY 2020 PWSS Program End-of-Year Evaluation Report
October 1, 2019 through September 30, 2020

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Note: States which meet the primacy requirements under 40 C.F.R. Part 142, are the primary regulators of their drinking water systems. EPA provides oversight of the implementation of state programs rather than directly supervising particular water systems. EPA Region 5 works with each primacy state to develop an annual work plan that promotes collaborative inter-agency program planning and implementation as well as a clear understanding of both state and EPA commitments. In addition, EPA Region 5 periodically evaluates the implementation and enforcement of public drinking water standards at a programmatic level in all primacy states Such a program review includes collection, analysis and interpretation of data, with recommendations by EPA to improve the state's drinking water program effectiveness.

Note: Data is from Federal Fiscal Year (FY) 2020 (Oct 1, 2019 – September 30, 2020) unless otherwise noted. Sources of data are cited throughout the document.

State Drinking Water Program and Effectiveness

Summary

The U.S. Environmental Protection Agency Region 5 conducted an end-of-year (EOY) evaluation of Michigan's Public Water System Supervision (PWSS) program, which is administered by the Michigan Department of Environment, Great Lakes and Energy (EGLE), Drinking Water and Environmental Health Division (DWEHD) during Fiscal Year (FY) 2020, October 1, 2019 – September 30, 2020. By regulation (40 C.F.R. Part 142.17) under the Safe Drinking Water Act (SDWA), EPA conducts reviews of state programs annually to evaluate the implementation of each state's drinking water program effectiveness.

Based on this review, EGLE continues to implement an effective drinking water program and continues to advance effective changes to the drinking water program. While EGLE continues to have high compliance rates for community water systems (CWS), non-transient noncommunity water systems (NTNCWS) and transient noncommunity water systems (TNCWS) for health-based drinking water standards (see Attachment 1), EGLE continues to have challenges in several areas, such as the data management, issuing violations for late reporting, automating compliance determinations, complete reporting for the noncommunity (NCWS) program, enforcement of Tier 3 Public Notification (PN) violations, increasing burden on staff to manage newly State-only regulated per- and polyfluoroalkyl substances (PFAS) contaminants, and implementation of a more stringent Michigan Lead and Copper Rule (LCR). While EGLE's data management capabilities have improved over the past 5 years and continue to improve, the major weakness in the Michigan PWSS program continues to be data management and IT solutions. Progress is noted, however, in all areas of the 2016 File Review Report and Corrective Action Plan (CAP) regarding IT and confirmed via State/EPA data calls every 4 months. EPA's decision to pause its next generation of SDWIS/PRIME in 2020 also contributed to delays. The Michigan CAP will remain in place until the next File Review is conducted which is planned to occur in 2022 and a new CAP is developed as a result. Other highlights or recommendations are included in each program section throughout this report.

Michigan exceeded EPA's drinking water program core measure to reduce the number of CWS that are out of compliance with health-based (HB) standards by 25%, by the end of FY 2022. As of October 2020, Michigan already met the FY 2022 target of 27 CWS by having only 17 CWS systems out of compliance. EGLE also exceeded two CWS HB Regional targets of ≥95 percent; specifically, 98.8 percent (1,368/1,385) of CWSs met all HB standards; and 96.5 percent (7,128,536/7,383,914) of the population served by CWSs met all HB standards (see also Attachment 1). These percentages have continued to be well above the targets for both measures for the past three years.

Michigan CWSs and NCWSs sanitary surveys completed[1] exceeded the State target of 82% by meeting 89.9% sanitary survey completeness within three years for CWSs and completing 95.1% of NCWS system sanitary surveys within five years. This is a notable achievement especially

[1] In the past, Region 5 has evaluated sanitary survey completeness based on calendar year using the April SDWIS/Fed freeze, which includes state data through compliance period ending 12/31 of the previous year. This is the first year Region 5 is evaluating this data based on the October 2020 SDWIS/Fed freeze, which includes state data through 6/30/2020. In addition, EPA's GWR and Interim Enhanced Surface Water Treatment Rule implementation guidance supports the use of full calendar years to evaluate sanitary survey frequency; for example, the guidance indicates that for a survey conducted in June, the state.

during the challenges that the Covid-19 pandemic brought and the hiring freeze. EPA Region 5 would like to work with EGLE towards maintaining a target of 90% for sanitary survey completeness.

Recent trends in enforcement and compliance activities show a downward trend in formal enforcement actions, along with a sharp increase in PWSs out of compliance in October 2020, which raises some concern to EPA Region 5 about the timeliness of enforcement actions. EGLE informed EPA that the downward trend in enforcement actions is related to COVID-19. EGLE encouraged local health departments (LHDs) to keep sampling requirements in place throughout the COVID-19 related shutdown and allowed enforcement discretion. EPA Region 5 is requesting that EGLE commit to following the 2009 Enforcement Response Policy (ERP) by issuing timely (within two calendar quarters) formal enforcement orders for systems in priority status.

The Public Notice (PN) Rule implementation section is new this year. EGLE is reporting all Tier 1 and Tier 2 CWS PN violations to SDWIS, but the NCWS program has been unable to report Tier 1 and Tier 2 NCWS PN violations (though the State is tracking these violations). However, EGLE is committed to issuing PN violations and reporting for NCWS by September 30, 2021. Tier 3 PNs for all NCWS are difficult to report also due to data management issues. EGLE's move towards full implementation of the PN rule in FY 2020 progressed as committed to in the Michigan CAP and FY 2020 Implementation Plan; although fewer resources caused by the Covid-19 pandemic and EPA's decision to delay SDWIS/Prime development slowed the process.

Inventory

EGLE regulates 10,877 public water systems (PWS) serving 8,843,481 citizens of Michigan. These water systems include 1,385 CWSs; 1,341 NTNCWSs; and 8,151 TNCWSs.

Table 1: Inventory of Michigan Public Water Systems, as of October 2020

Year	Total # PWSs	# CWSs	# NTNCWSs	# TNCWSs
2020	10,877	1,385	1,341	8,151

Data Source: EOY_1_PWS Inventory October 2020Q3

Health-Based Violations at CWSs and Program Measures[2]

During FY 2020, EGLE achieved a high level of performance on its PWSS Program Measures, as well as on EPA's National Water Program Measure as discussed below. In addition, EGLE met or exceeded five of the six EPA Regional water program measures for which new information was available for this report. Highlights or recommendations are also included in each program section in the body of this report. EPA Region 5 continues to monitor the progress on these measures and work with EGLE to improve compliance, including monitoring requirements.

[2] EPA Region 5 evaluates state progress in meeting specific program measures, which can be found in Attachment 1 located at the end of this report.

As of June 30, 2020, Michigan had 17 total CWSs with HB violations, 2 of which were continuous, 1 was intermittent, and 14 were new[3] (Table 2 and Figure 1 below). Nine of the 17 CWSs had all HB violations returned to compliance (RTC) by June 30, 2020. This is an improvement from the baseline in FY 2017 (2017Q3) when Michigan had 36 CWSs with HB violations. In addition, Michigan has met the 25% reduction goal in Table 2, although EPA Region 5 recognizes that this number will fluctuate until FY 2022. Michigan has kept the overall number of CWSs in noncompliance with HB violations relatively low, and the trend shows that CWSs with HB violations have been decreasing since 2017 (from 36 systems in 2017Q3, 27 systems in 2019Q3, to 17 in 2020Q3) and that the large majority of CWSs with HB violations (14 of the 17 CWSs) had populations less than 3,301.

Table 2: Michigan CWSs Out of Compliance with Health-Based Standards Between 7/1/2019 and 6/30/2020[4]

EPA Drinking Water Program Core Measure	FY 2020 State EOY Results
Reduce by 25%, by the end of FY 2022, the number of CWSs that are out of compliance with HB standards, as compared to FY 2017 baseline of 36 CWSs. A 25% reduction would be 27.	17 CWSs out of compliance with HB standards

Data Source: SDWIS/Fed October 2020 data set, which includes data through the compliance period ending 6/30/2020; B01_CWS_HB_Viol_count_Oct2020Q3

Figure 1 below depicts CWSs with new, intermittent, or continuous HB violations of drinking water standards over time. This bar chart includes all CWSs with HB violations per quarter beginning in the third quarter of 2017 (2017Q3) through the third quarter of 2020 (2020Q3).

Definitions:

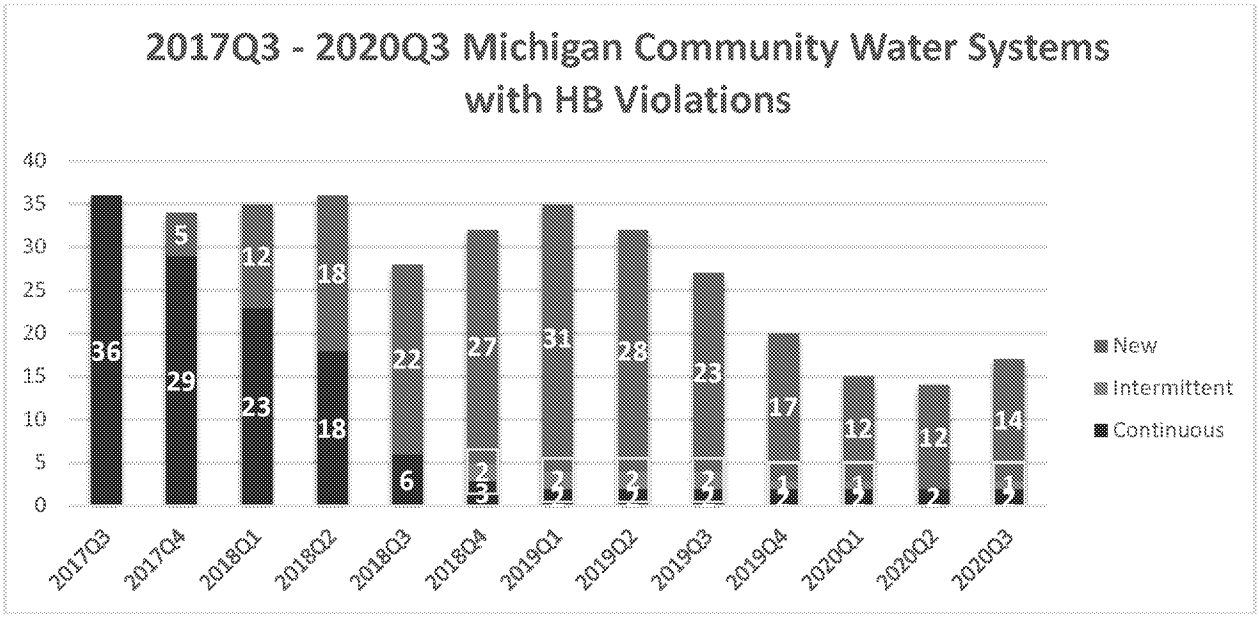
New: CWS with health-based violations that were not in violation in 2017Q3, per SDWIS/Fed.

Intermittent: CWS that were on the baseline list of CWS with health-based violations (2017Q3) and were off the list in at least one subsequent quarter and then came back on the list.

Continuous: CWS that have remained on the list of CWS with heath-based violations since baseline (2017Q3) and continues into the current quarter.

[4] Health-Based Standards includes Maximum Contaminant Level and Treatment Technique violations.

Figure 1. Number of CWSs in Michigan with New, Intermittent, or Continuous Health-based Violations over the Past Three Years



Data Source: See file named B01G_CWS HB Viol_ graphic_Oct2020Q3.xlsx

The specific National Primary Drinking Water Regulations (NPDWRs) causing most of the HB violations for the 17 CWS listed as "continuous", "intermittent" and "new" in the third quarter of 2020, are provided below in more detail under the Rule Implementation section. However, overall, the new CWS systems are challenged by the Ground Water Rule, Lead and Copper Rule, Arsenic Rule, Disinfectants/Disinfection By-Products Rules, and the Nitrate Rule. For the 2 remaining CWS with "continuous" violations include: 1) one system was in noncompliance with arsenic maximum contaminant level (MCL); and 2) a very small nursing home reports noncompliance with Treatment Technique (TT) requirements under LCR due to a lack of Public Education due to a data anomaly. EPA Region 5 expects to see both of these violations dropped from the CWS HB-violations list in 2021 as they have returned to compliance (RTC). Also, the one CWS with an "intermittent" violation is for noncompliance with nitrate MCL, but that violation is now RTC.

Michigan's Corrective Action Plan

An additional evaluation tool used by EPA is an in-depth drinking water program review conducted approximately every 6 years. In 2016, EPA Region 5 conducted an on-site program review of the Michigan Drinking Water Program and issued the October 24, 2017 Final Program Review Report. A CAP was developed with EGLE as a result of the findings and recommendations which identified how EGLE planned to address the program review recommendations. On a quarterly basis, EGLE reports progress in the CAP and EPA Region 5 reviews the status of progress made on the CAP with the State.

Michigan EGLE has made substantial progress since 2016 in addressing deficiencies documented in the File Review Report and CAP. The State has updated their progress on completing activities and provided revised timelines for completion to the CAP twice a year since 2017. To date, of the 135 findings/recommendations in the initial CAP, 30 activities remain

to be completed. The State has committed to complete most of these activities in 2021, however, some are dependent on the State/EPA IT solutions. The MI CAP will remain in place until the next File Review planned to occur in 2022 and a new CAP is developed, as needed.

Three specific commitments by EGLE for activities that are not being fully implemented which affect primacy have been included in their Federal PWSS grants for the last 3 years. These commitments are included in an "Implementation Plan", prepared by the State as a part of each year's Federal PWSS grant workplan. The Implementation Plan was updated on November 4, 2019, and the FY 2020 Implementation Plan was submitted July 23, 2020 and found acceptable by EPA Region 5. The three areas include:

1. Lack of an up-to-date data management system for NCWS program: EGLE worked toward completing migration/entry of previously unreportable NCWS violations to SDWIS/State. The NCWS Program worked with a contractor to read and process violation records from Excel spreadsheets submitted quarterly by the LHDs; EGLE will begin electronically submitting LHD violation records into SDWIS/State in FY 2021, which will enable more reliable/efficient quarterly reporting to EPA. The NCWS program's data management system (WaterTrack) will be maintained over the next few years until the federal replacement for SDWIS/State becomes available.

2. Issuing Reporting Violations for Late Reporting: The state is required to issue a reporting violation to a PWS if it submits monitoring reports to the state after the prescribed deadline, i.e. 10 days after the monitoring period. EGLE has not consistently issued violations for missed reporting deadlines due to limited resources. During FY 2020, the CWS program improved its follow-up of late reporting for all rules by tightening the time period for issuing violations to water systems that submitted monitoring reports more than 15 days late. The NCWS Program has issued reporting violations to systems that fail to submit Revised Total Coliform Rule (RTCR) assessments and seasonal start-up certifications. EGLE reported very few violations for failure to certify the distribution of Lead Consumer Notification (LCN) at NTNCWSs, only 8 NTNCWSs were issued violations in FY 2020. LCN violations at NTNCWSs are reported outside of the State's database, WaterTrack, and requires additional staff support which were not available due to the effects of the Covid-19 pandemic that included staff furloughs and a hiring freeze. The State commits to update the phased schedule for full reporting of LCN violations with new targets during FY 2021.

3. Enforcement of Tier 3 Public Notification Violations: Due to resource limitations and prioritization of activities, EGLE has been unable to fully enforce Tier 3 ~~Public Notification~~ (PN) violations including assigning violations, sending notices of violation, and undertaking formal enforcement actions. However, EGLE is providing a list of violations requiring Tier 3 PN on its website by July 1 each year. Further information regarding EGLE's implementation of the PN Rule is provided in this report under Rule Implementation: Public Notification Rule.

Covid-19 Pandemic Impacts

EPA Region 5 commends EGLE's ability to pivot daily work, as needed, due to the ongoing Covid-19 pandemic and the need to explore different ways of handling activities remotely. Due to the Covid-19 pandemic, the State had limited EGLE resources in order to fund pandemic-related work; thus, there was a 20% reduction of funding for State staffing (one day/week furloughs) for a 10-week period during summer 2020. A hiring freeze was in effect the last half of FY 2020, which prevented the filling of numerous key vacancies. Staff continue to work remotely with limited access to files and continued restrictions on in-person office work. Staff are responding to drinking water concerns and implementing new drinking water regulations, while responding to Michigan Executive Orders regarding the Covid-19 pandemic.

Overall, the State's response to the Covid-19 pandemic has impacted the drinking water program's workload priorities. For example, PWSs have experienced compliance and financial challenges for total coliform and lead and copper sampling; PWSs have financial challenges because they may not shutoff water service due to lack of payment; and, PWSs have had to reduce in priority the following activities: backflow prevention inspections, lead service line (LSL) inventory, and LSL replacements.

The LHD have also been directly involved in the Covid-19 pandemic. As a result, the LHDs' normal role in NCWS oversight was diminished; for example, NCWS staff are involved in direct Covid-19 response activities and also have been reassigned to Covid-19 contact tracing. Implementation of vaccine clinics is taking NCWS staff time at LHDs.

Consequently, LHD regulators were compressing the typical scheduling of RTCR seasonal start-ups at NCWSs into the same timeframe with opening of campgrounds and pools as Michigan Executive Orders are impacting opening dates. LHDs' workload therefore was not staggered. The State expected a rise in NCWS violation numbers in spring and early summer 2021.

Despite the challenges caused by the pandemic, EGLE continues to implement its safe drinking water statutes and rules on which primacy is based placing the priority on the highest public health risks as described in this report. In addition, EGLE implements regulations that are more stringent than the federal primacy requirements, such as EGLE's Surface Water Treatment Rule, revised LCR, and 7 per- and polyfluoroalkyl substances (PFAS) health standards and required monitoring. EGLE also implements multiple initiatives to protect public health that go above and beyond federal rules, including programs related to asset management (AM), which addresses water system structural problems and underlying compliance issues and uses AM metrics to track progress such as for: contingency planning; cyanotoxins monitoring and testing; and oversight of secondary disinfection systems for *Legionella* control. However, it is important to emphasize that Michigan resources were strained during the pandemic, which will likely continue into FY 2021.

State Resources

EGLE currently implements the PWSS program using the EPA PWSS grant, Drinking Water State Revolving Fund (DWSRF) set-aside funds, other monies awarded from the State and other EPA grants listed below, as well as a state Public Water Supply fee program, state laboratory certification fees and operator certification fees. In FY 2020, EGLE requested PWSS grant funds for 39 full-time equivalents (FTE) and 54.5 FTEs with DWSRF set-aside funds.

As staff workloads increase, additional program resources will be utilized to maintain a high level of public health protection in the future. As drinking water program requirements and the demands to improve water system compliance increase, increases in funding must continue to support Michigan's drinking water program.

PWSS Grant Funds

EPA's PWSS grant to Michigan EGLE funds 23.5 percent of the cost to implement the SDWA in Michigan. In FY 2020, Michigan received $4,391,000 in FY 2020 EPA PWSS Grant Award Funds, with the stipulation that $300,000 must be used for emerging contaminants. Michigan EGLE used the FY 2020 PWSS grant for 39 FTEs to implement the activities in the PWSS workplan, including the programs mentioned in each of the sections of this report. They further used the $300,000 to fund activities related to implementation of the State's new PFAS rule (see PFAS section of this report). Unfortunately, due to delays related to the Covid-19 pandemic and a back-up at the State laboratory, EGLE was unable to fully expend the $300,000 for its PFAS Contaminants Testing during FY 2020. An extension to fully expend these funds by September 30, 2021 has been approved by EPA Region 5.

DWSRF Set-Aside Funds

DWSRF set-aside funds are essential to EGLE's implementation of the PWSS program. The State uses the DWSRF set-aside funds to supplement public health protection of public drinking water supplies and program FTE. The State has been using these set-asides to pay for staff since 2000; the number of employees funded with DWSRF set-asides has increased over the years. EGLE requested $7.3 million of FY 2020 DWSRF set-aside funds (not including Administration set-aside), to fund approximately 54.5 FTEs. However, the amount spent on FTEs in FY 2020 (48.3 FTEs) was much lower than projected in the workplan due to a statewide hiring freeze and 80 hours of furloughs imposed for each employee.

In FY 2020, Michigan EGLE used DWSRF set-aside funds to:

- Fund 2.8 FTEs from the Small Systems Technical Assistance set-aside to provide assistance and training to LHD staff who implement the NCWS program; provide direct engineering assistance to NCWSs for nitrate, arsenic and PFAS treatment; and provide engineering plan review, site visits and oversight of new secondary treatment systems.
- Fund 12.5 FTEs from the Wellhead Protection (WHP) set-aside to conduct reviews to approve wellhead delineations and promote WHP activities, administer the 50/50 grant program to local communities to develop/improve WHP plans, reviewing/finalizing source water assessment work at NTNCWSs, and support the Septage Waste Program and Onsite Wastewater Program to ensure groundwater sources of drinking water are not contaminated.
- Award $402,000 as grants to 38 communities to conduct WHP activities and develop/improve their WHP plans. In addition, one CWS was awarded $15,000 to develop/implement a surface water intake protection plan.
- Michigan drinking water staff worked with other EGLE Divisions, as well as Michigan Department of Health and Human Services (MDHHS) and LHDs, to provide resources regarding sample results and groundwater flow and communicated recommendations to

the public about minimizing exposure to PFAS, and provided technical/educational support for source assessment and evaluation of treatment technology options.

- Fund 18 FTEs from the Local Assistance for Capacity Development set-aside, conduct sanitary surveys, assist PWS in acquiring and maintaining capacity, continue to evaluate technical, managerial and financial capacity for new and existing systems, conduct plan reviews for new water system treatment construction, and other activities to support the drinking water program. Staff adjusted the Harmful Algal Blooms (HAB) monitoring strategy for all source water systems; a sample every 2 weeks for all participating systems and weekly sampling for those systems with cyanotoxin detections the previous year.
- Fund 15 FTEs from the PWSS set-aside to conduct activities required to maintain primacy of the drinking water program in Michigan.

Similar to the Drinking Water Program evaluations, EPA Region 5's DWSRF Team performs on-site visits and issues the Performance Evaluation Report (PER). The most recent PER of the Michigan DWSRF program is dated September 2, 2020. It indicates that the State made $7.98 million in non-administrative set-aside draws in PY 2019 and that significant progress has been made in drawing unliquidated set-aside obligations.

Other EPA Funding

Three Water Infrastructure Improvements for the Nation (WIIN) Act grants were available to EGLE that include:

1. Lead Testing in Schools/Child-care Program Drinking Water Grant: Under EPA's new voluntary Lead Testing in Schools and Child-Care grant program authorized under the WIIN Act, EPA awarded Michigan $1,190,000 on December 30, 2019. EGLE implemented a program in FY 2020 to sample for lead in schools and child-care facilities. EGLE received $681,000 in additional funding in FY 2020 to continue voluntary lead testing at schools and child-care facilities.
2. Reduction of Lead Exposure in the Nation's Drinking Water Systems through Infrastructure and Treatment Improvements Grant: These funds will assist disadvantaged communities with removing sources of lead in drinking water from drinking water systems and schools. FY 2020 was the first year of this national, competitive grant program. Two cities in Michigan were notified in October 2020 that their projects were approved:
    a. City of Benton Harbor: Replace part of the estimated 2,383 LSLs with copper pipe, provide outreach and education to the public on lead in drinking water, perform a study to optimize corrosion control treatment, and to create a trackable, accurate GIS database of city infrastructure materials.
    b. City of Grand Rapids: Replace part of the estimated 4,197 LSLs with copper pipe. The proposed project targets 17 contiguous census tracts known as Neighborhoods of Focus, which have a concentration of lead pipes and socioeconomic challenges.
3. Small/Disadvantaged System Grants: EGLE informed EPA Region 5 that its cost share funding to obtain this EPA grant was swept in order to fund Covid-19 activities. EGLE was investigating alternate sources for the cost share; however, EGLE has decided against applying for this grant due to difficulties in acquiring the required cost share.

EGLE received an FY 2018 Exchange Network Grant from EPA for $200,000 which the State began expending during FY 2019 and continued to expend during FY 2020. This grant allows

EGLE to hire one or two pre-approved EPA vendors to assist in the migration of existing data to adopt SDWIS/State and enable the Compliance Monitoring Data Portal (CMDP) in Michigan. EGLE also received a FY 2019 Exchange Network Grant from EPA for $28,811, which is funding EGLE's continued efforts in FY 2020 to migrate data to SDWIS-State and to assist with EGLE's utilization of CMDP.

Please note that EPA awarded a Multi-Purpose Grant ($54,543) in FY 2020 to MDHHS. This grant funded public health education and outreach activities to reduce harm to human health resulting from cyanotoxins and HABs in Michigan. The second year of this grant will focus on sampling recreational waters.

State Funding

At the beginning of FY 2020, a State one-time supplement of $120M in State General Funds was made available to DWEHD to hire 25 FTE and to provide grants to PWSs for LCR implementation and for PFAS/emerging contaminants for sampling, contaminant remediation and treatment technologies. However, due to the Covid-19 pandemic and related budget issues, these staff were not hired in FY 2020. A hiring freeze that existed during most of FY 2020 was lifted in late 2020. The one-time supplemental of $120M was reduced to $105M but is still available to EGLE's PWSS program. Five new engineers were hired in December 2020 to help with the sanitary survey back-log created by budget cuts, furloughs and hiring freeze. The following grants are being funded with $105M discussed above:

1. The State has made available ($37.5M) for grants for drinking water infrastructure upgrades included in CWS AM Plans. These funds will help CWSs inventory their infrastructure and efficiently plan for ongoing management of their critical assets.
2. Drinking Water Infrastructure grants ($35M) will also be awarded for projects identified in CWS's AM Plan or Capital Improvement Plan.
3. The Consolidation and Contaminant Risk Reduction (C2R2) grants ($25M) will be awarded to drinking water systems for projects that remove or reduce PFAS or other contaminants, or for efforts to consolidate systems or connect private/residential wells to a local CWS.
4. The Affordability and Planning Grants ($7.5M) will address affordability and planning needs.

EGLE is also transferring $102M from the State's Clean Water Revolving Fund to the Drinking Water State Revolving Fund (DWSRF) for water systems' LSL Replacement; $44 million in LSLR projects are on the State's DWSRF Project Priority List for funding in FY 2021 and the State expects to have an additional $190 million on the list for PY 2022.

Status of Rule Adoption and Implementation

EGLE has regulatory authority for all federal rules promulgated to date. EGLE has full primacy for all rules, including RTCR, the most recent approval.

EGLE revised the Michigan LCR on June 14, 2018, which includes provisions more stringent than the federal LCR. (See Rule Implementation: Lead and Copper Rule below for more detail.) The Michigan's SWTRs require all surface water systems to have complete treatment (filtration), which is more stringent than the Federal rule. EGLE also promulgated MCL/HB standards for

seven PFAS compounds in FY 2020 which became effective on August 3, 2020. (See Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) in Drinking Water below for more detail.)

As highlighted above, there were 17 CWS listed as "continuous", "intermittent" and "new" in the third quarter of 2020 due to HB violations. Overall, the new CWS systems had the largest number with 14 CWS "new" violations:

- Five systems in noncompliance with TT requirements under the Ground Water Rule (GWR) (2 systems RTC);
- Three systems in noncompliance with TT requirements under LCR (1 system RTC);
- Two systems in noncompliance with arsenic MCL;
- Two systems in noncompliance with a TT requirement under Stage 1 Disinfectants/Disinfection By-Products Rule (Stage 1 D/DBPR) for not having a certified operator, where both systems have RTC.
- One system in noncompliance with nitrate MCL, which has RTC;
- One system in noncompliance with Total Haloacetic Acids (HAA5) MCL under the Stage 2 Disinfectants/Disinfection By-Products Rule (Stage 2 D/DBPR); and
- One system in noncompliance with combined radium MCL under the Radionuclides Rule, which has RTC.

*NOTE: One CWS was in noncompliance with both the arsenic MCL and GWR TT requirements.

As a further part of the EPA Region 5 evaluation of rule implementation, the number and type of violations for all Michigan PWS types is reviewed, as highlighted in Table 3 below. This depicts violations by rule, and type of violation including MCL, Monitoring only, Monitoring and Reporting (M/R), Other, and TT. Please note that this table is under-reporting certain violation types as EGLE is not able to fully report on all the rules.[5] Much of the under-reporting is due to the NCWS database's current lack of capability to report certain violation codes.

The most common HB (MCL and TT) violations for all Michigan PWSs include: 1) RTCR; 2) Arsenic Rule; and 3) Nitrates Rule. Similarly, the rules with the most M/R violations, in terms of number of PWS, for all Michigan PWSs are: 1) RTCR; 2) Nitrates Rule; and LCR.

[5] In FY 2020, incomplete reporting was being conducted for the following rules: Stage 2 D/DBPR GWR, RTCR, LCR and PN.

Table 3. Number and Type of Violations for All Michigan PWS Types (CWS, NTNCWS, and TNCWS) within the Four Quarters between 7/1/2019 and 6/30/2020

Michigan	Violation Category Code													
	MCL		Treatment Technique		Monitoring/ Reporting		Monitoring		Reporting		Other		Total Viols	Total PWS in Viol
Rule Name	Viols	PWS in Viol	Viols	PWS in Viol	Viols	PWS in Viol	Viols	PWS in Viol	Viols	PWS in Viol	Viols	PWS in Viol		
Arsenic	36	24	--	--	93	85	--	--	--	--	--	--	129	103
CCR	--	--	--	--	--	--	--	--	--	--	30	29	30	29
GWR	--	--	6	5	20	20	--	--	--	--	2	2	28	27
Inorganic Contaminants	1	1	--	--	409	49	--	--	--	--	--	--	410	50
LCR	--	--	8	5	271	201	--	--	--	--	--	--	279	201
Long Term 1 Enhanced SWTR	--	--	--	--	11	3	--	--	--	--	--	--	11	3
Long Term 2 Enhanced SWTR	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrates	13	12	--	--	442	394	--	--	--	--	--	--	455	403
PN Rule	--	--	--	--	--	--	--	--	--	--	4	4	4	4
Radionuclides	2	1	--	--	2	1	--	--	--	--	--	--	4	2
RTCR	11	11	32	31	--	--	2,415	1,454	79	75	1	1	2,538	1,549
Stage 1 D/DBPR	--	--	2	2	7	7	--	--	--	--	--	--	9	9
Stage 2 D/DBPR	1	1	--	--	179	93	--	--	--	--	--	--	180	93
SWTR	--	--	--	--	1	1	--	--	--	--	--	--	1	1
Synthetic Organic Contaminants	--	--	--	--	187	10	--	--	--	--	--	--	187	10
Total Coliform Rule	--	--	--	--	--	--	--	--	--	--	1	1	1	1
Volatile Organic Contaminants	--	--	--	--	1,680	77	--	--	--	--	--	--	1,680	77
Michigan Total	**64**	**50**	**48**	**43**	**3,301**	**828**	**2,415**	**1,454**	**79**	**75**	**38**	**37**	**5,945**	**2,139**[6]

Data Source: EOY 4. (October 2020 data freeze).

As of June 2021, the EGLE non-community program has 4 systems approved to operate under the 40 CFR 141.11 alternate MCL of 20 mg/L for nitrate, which are all TNCWS: two churches, a bar, and a school bus garage. Michigan requires these systems to provide bottled water upon request, assure that infants less than 6 months will not be exposed, and provide continuous public notice at all faucets/outlets available to the public. EPA Region 5 notes that this is fewer systems than the 8-10 TNCWS or 5 TNCWS approved to operate under the 40 CFR 141.11 alternate MCL based on updates from the state in 2016 and 2014, respectively.

A specific look at the implementation of the RTCR, Arsenic, LCR, D/DBPRs, and PN Rule is provided below. This is the first time EPA Region 5 is evaluating the State's current implementation of the PN Rule in the End-of-Year evaluation report.

[6] The number of PWS in violation for each of the rules in this table add up to be equal to more than the grand total PWS in violation, because each row is independent from one another and only evaluates the number of systems in violation of that particular rule, and systems may be in violation of more than one rule.

Rule Implementation: Revised Total Coliform Rule (RTCR)

EPA Region 5 received the State's final RTCR primacy package on April 20, 2016. EPA Region 5 announced its intention to grant primacy to EGLE for the RTCR in the Federal Register on June 10, 2020; primacy became effective on July 10, 2020. As noted in Table 3 above, RTCR is the rule with the most noncompliance for HB violations; though 60% fewer violations were reported as compared to the number of RTCR HB violations reported in the FY 2019 EOY evaluation report. However, EPA Region 5 notes that RTCR HB violations are being addressed in a timely manner and improvement is noted as the State increased its efforts to address RTCR HB violations. State and LHD staff are providing necessary technical assistance as needed.

During FY20, there is a very high number of RTCR monitoring violations (2,415 violations at 1,454 systems), which is similar to last year's reported RTCR monitoring violations (2,356 violations at 1,316 systems). The majority of the monitoring violations took place at TNCWS (2,229 violations at 1,454 systems). EGLE explained to EPA that COVID-19 related shutdowns created confusion at NCWS as many operators believed sampling was not necessary as they were not opened to the public. Furthermore, COVID-19 reduced capacity at laboratories and LHD compliance assistance was reduced due to their shift to direct Covid Response work. Michigan has returned to compliance 37.2% (899[7]/2,415) of open RTCR monitoring violations between 7/1/2019 and 6/30/2020. EGLE appears to do a good job returning "old" open monitoring violations to compliance. This seems to note, however, that the bigger issue may be preventing monitoring violations, rather than slow RTC. EGLE has identified a few large LHDs that fail to send out monitoring reminder notices, which significantly increased the State's rate of NCWS RTCR noncompliance. To decrease noncompliance rates, EGLE's NCWS program offers and conducts training for NCWSs, LHD and EGLE field staff on reporting deadlines. The State placed one LHD under a CAP in FY 2019 and noted progress in reducing noncompliance in FY 2020.

Table 4 below summarizes RTCR violations reported to EPA during the four quarters between 7/1/2019 and 6/30/2020.[8]

- Nine of the 11 (80%) MCL violations occurred at TNCWSs; two occurred at NTNCWSs. All 11 MCL violations occurred at systems serving less than or equal to 300 people, and seven of these violations occurred at systems serving less than or equal to 100 people. Compared with FY 2019, the RTCR MCL violations during FY 2020 reduced by 31%.
- All 32 TT violations occurred at 31 TNCWSs, and all TT violations occurred at systems serving less than or equal to 500 people. Twenty-seven of the 31 systems serve less than or equal to 100 people. Most TT violations were for Start-up Procedures violations at TNCWSs; 3 were for Level 1 Assessment (LVIA) or Level 2 Assessment (LV2A) TT violations[9]. In FY 2020, the number of RTCR TT violations reduced by 65% as compared with FY 2019.
- The RTCR monitoring violations, on the other hand, also compared with FY 2019, increased in 2020 along with fewer violations RTC. EGLE informed EPA that 52 percent

[7] Only 4 of 47 monitoring violations from January – June 2019 are RTC. There is also 1 violation from 2018 that is not RTC.

[8] Comparisons of FY 2019 data and FY 2020 data were based upon January freeze (10/1/18-9/30/19) for FY 2019 data, and FY 2020 data was based upon October freeze (7/1/19-6/30/20).

[9] A TT violation would occur when a system that triggers an assessment fails to conduct the assessment within 30 days of the trigger and/or fails to correct identified sanitary defects within 30 days of the trigger or on a state approved schedule.

of the systems with a RTCR monitoring violation in FY 2020, did not have one in FY 2019. This was due not only to the EGLE reduced staffing and furloughs, but also LHD staff taken away from their normal role in NCWS oversight to do Covid-19 contact tracing and implementation of vaccine clinics.

Table 4. RTCR violations for both CWS and NCWS in Michigan within the Four Quarters between 7/1/2019 and 6/30/2020; inactive systems not included[10]

Violation Category	Number of Violations	Number of Violations RTC	Percent of Violations RTC	Number of Systems in Violation[11]
Maximum Contaminant Level	11	8	72.7%	11
Treatment Technique	32	6	18.8%	31
Monitoring	2,415	899	37.2%	1,454
Reporting	79	38	48.1%	75

Data Source: EOY.4 (Rule Violation Reporting), October 2020

Additional work for EGLE staff is triggered by positive total coliform results and must be followed up by assessments. In FY 2020, 36 CWSs had LV1As and 15 CWSs had LV2As completed between 7/1/19 and 6/30/2020 (see Table 5); fewer assessments compared to FY 2019 assessments (42/24, respectively).

Table 5. RTCR Level 1 and Level 2 Assessments Completed Within the Four Quarters Between 7/1/2019 and 6/30/2020[12]

PWS with Assessments	CWS	NTNCWS	TNCWS	TOTAL
LV1A	36	---	---	36
LV2A	15	---	---	15

Data Source: See file named EOY.3_RTCR Assessments completed_Oct2020.xlsx [As discussed above, Michigan is not reporting LV1A and LV2A for NCWS to SDWIS-Fed.]

Implementing RTCR at NCWSs in Michigan is challenging for several reasons. First, the State's NCWS program's data management is split between WaterTrack and a separate instance of SDWIS/State, which allows more reporting to EPA. Secondly, EPA's delay in upgrading to a replacement for SDWIS/State has hampered State reporting to EPA. In the interim, the 44 LHDs must enter compliance data manually for the 9,492 NTNCWSs/TNCWSs and submit data to EGLE's central office in an Excel file each quarter. This workload tends to increase when water systems restart after a periodic shut down, i.e., campgrounds close for the winter, or when NCWSs are required to submit LV1A and the LHDs perform LV2A after meeting certain standards. EGLE has been unable to report all NCWS violations to EPA due to State and EPA data management deficiencies, as described above. Thus, evaluation of NCWS RTCR

[10] Treatment Technique violation data includes 4 inactive systems, Monitoring violation data includes 55 inactive systems and Reporting violation data includes 2 inactive systems.
[11] The number of systems in violation includes the RTC violations.
[12] EGLE was unable to report all NCWS violations to EPA so NCWS RTCR assessments not provided in Table 6.

assessments are not provided in this report. Refer to the Data Management Section of this report for more information about Michigan's progress in developing its data management systems.

Implementation of the drinking water program's Information Technology (IT) modernization project began in 2019 and is ongoing. Upon completion, the new IT modernization will support LHD RTCR implementation through document submittal and management and through improvement in workflow and enforcement tracking. EGLE is still planning to use the SDWIS Modernization product, when available, for compliance determination and federal reporting. This will be a significant improvement for the program. In the meantime, to assist LHD staffing needs required for the tracking and reporting of the RTCR outside of the legacy central database, WaterTrack, EGLE granted the LHDs a total of $200,000 in FY 2020, for the second year in a row to fund staffs' additional time necessary to track RTCR violations and follow-up with systems on monitoring/MCL/conduct L2 assessments/track L1 assessments, etc.

Rule Implementation: Arsenic Rule

The Arsenic Rule implementation continues to be a challenge in Michigan being the second most common HB violations for all system types with 24 systems. Of the 24 systems, 3 were for CWS and 21 were NTNCWSs. Some groundwater sources in Michigan have high naturally occurring arsenic. When the revised arsenic standard was promulgated in 2001, EGLE expected a significant number of PWSs to exceed the new arsenic standard. EGLE was proactive in identifying NTNCWSs with elevated arsenic in the drinking water and determined that many small NTNCWSs did not have the resources or capability to maintain treatment safely. In 2008, with EPA Region 5's approval, EGLE began allowing the use of bottled water for arsenic noncompliance. The NTNCWSs were required to provide public notice and bottled water, as well as conduct routine quarterly monitoring until the systems returned to compliance. EGLE or LHDs conducted regular compliance inspections and surveillance visits to ensure compliance. EGLE reports these systems as arsenic MCL violations to EPA.

After 2010, EGLE decided to phase-out the use of bottled water at these water supplies and focus on bringing water supplies back into compliance. Currently, WaterTrack reports six NTNCWSs (includes 1 school, 3 daycares) that were required to install treatment; 1 water supply has already installed treatment; 2 other water supplies have been approved by EGLE engineers for treatment systems (1 school, 1 daycare); 1 water supply is developing its treatment system application for submittal to EGLE (1 daycare); 1 water supply has not started its treatment system application for submittal to EGLE (1 daycare), and 1 water supply is working with EGLE on an amended Administrative Consent Order (ACO). EGLE has committed to EPA's Water Enforcement and Compliance Assurance Branch to place these 5 NTNCWSs under ACOs as soon as possible, regardless of where they are in the treatment application process.

Overall, for the 3 CWSs that were in non-compliance with the arsenic MCL within the last 4 quarters all are groundwater sources and serve 500 or fewer population. Arsenic MCL violations at CWSs has generally decreased since the third quarter of 2017 (8 CWSs to 3 CWSs). Since addressing arsenic MCL noncompliance is a time-intensive effort, the State is making steady progress to bring systems back into compliance. There were also 85 systems during the same time period with M/R violations, as noted in Table 6 below. Of those 85 systems, 35 have returned to compliance which is also notable progress.

Table 6. Number of Systems with Arsenic Violations for PWSs in Michigan within the Four Quarters between 7/1/2019 and 6/30/2020

Violation Category	Number of Systems in Violation (Number/Percent of RTC Systems)			
	CWSs	NTNCWSs	TNCWSs	TOTAL
Maximum Contaminant Level	3 (1 RTC)	21 (5 RTC) (1 system inactive)	0	24 (6 RTC) (25% RTC)
Monitoring/ Reporting	8 (8 RTC)	74 (26 RTC) (1 system inactive)	3 (1 RTC)	85 (35 RTC) (41.2%)
TOTAL	11 (9 RTC) (81.8% RTC)	95 (31 RTC) (32.6% RTC)	3 (1 RTC) (33.3% RTC)	109 (41 RTC) (37.6% RTC)

Data Source: EOY.4 (Rule Violation Reporting), October 2020

Rule Implementation: Lead and Copper Rule

EGLE maintains a strong LCR program, especially through their efforts that go beyond the federal primacy requirements as part of State rulemaking in 2018. EGLE revised the Michigan LCR[13] on June 14, 2018, which includes provisions more stringent than the federal LCR. EGLE's LCR implementation highlights for FY 2020 are summarized below. Key provisions of Michigan's more stringent LCR are:

- New lead action level of 12 parts per billion takes effect January 1, 2025.
- In addition to a first draw sample, a second sample of the 5th liter is required at sites served by a LSL.
- Partial LSL replacement is no longer allowed, except in narrowly defined emergency situations.
- Water supplies, regardless of LCR sampling results, must replace all LSLs at a rate of 5% per year, at the water supply expense.

LCR was the third highest rule with HB violations, and fifth highest rule with M/R violations. However, EGLE is doing a good job with implementing the federal LCR. The PWSs with LCR TT violations are distributed throughout the State. Five systems had open Treatment Technique violations between 7/1/2019 and 6/30/2020, while during the same time period there were 197 systems with M/R violations. Over half of the LCR M/R violations are from 2018 or earlier and were RTC'd in the last year (44/75). In addition, 84 of 175 violations that started in the last 12M (July 2019-June 2020) were RTC in the same year. Michigan is doing a good job returning LCR M/R violations to compliance.

Of the 4 MI CWSs with 2020Q3 LCR TT violations, 2 CWSs serve a population of 100 or fewer, 1 serves a population between 10,001-50,000, and 1 serves a population between 100,001-250,000. The 1 NTNCWS with an LCR TT violation serves 101-500.

[13] https://dtmb.state.mi.us/ORRDocs/AdminCode/1928_2019-035EQ_AdminCode.pdf

Table 7. LCR Violations for Both CWS and NCWS in Michigan within the Four Quarters between 7/1/2019 and 6/30/2020

Violation Category	Number of Violations	Number of RTC Violations	Percent of RTC Violations	Number of Systems in Violation[14]
Treatment Technique	8	1*	12.5%	5
Monitoring/Reporting	271	132	48.7%	197**

Data Source: EOY.4 (rule violation reporting—October 2020)

*1 additional CWS RTC for public education violation, but SDWIS doesn't reflect this information (error).

**4 NTNCWSs inactive

Also, one system in noncompliance with TT requirements under LCR (Type 65 violation in 2007), which was RTC by the State, is not correctly reflected in SDWIS/Fed. EPA HQ has been contacted to correct this data anomaly.

Michigan is a leader in the area of LCR with its newly promulgated State LCR that is more stringent than the Federal LCR which is discussed below. DWEHD's Lead and Copper Unit (LCU) is responding to LCR violations as they arise. Again, data management issues are hampering reporting of some NTNCWS M/R violations, that includes lead consumer notice (LCN) and source water M/R violations, but progress is noted over the past several years in further development of the NCWS data management system (though the Covid-19 pandemic caused a set-back in FY 2020).

Enhanced LCR implementation:

Michigan's more stringent state LCR is likely to trigger more systems into taking actions under the LCR and therefore may result in more LCR TT violations if those systems do not complete the required actions. Michigan is reporting 90th percentiles calculated under the State LCR, which may be higher due to inclusion of 5th liter samples and other sampling protocol improvements, to SDWIS/Fed. Note that while lead Action Level Exceedances (ALE) calculated using the 5th liter are State-only ALEs, the State is reporting ALL ALEs as federal ALEs to avoid public confusion. Beginning with 2019 sampling, 90th percentile lead and copper results for systems with LSL, for which 5th liter samples were required at locations with LSLs, reported to SDWIS-Fed are based on the highest-level sample at each sampling site. All 90th percentile calculations for lead and copper for all large and medium systems are reported to SDWIS/Fed.

For the national water program core sub-measure, CWSs out of compliance due to LCR HB violations within a rolling three-year period, SDWIS/Fed data as of October 2020 indicates Michigan EGLE had 8 CWSs with open LCR TT violations between July 1, 2019 and June 30, 2020; one system was RTC and one system had a data error[15]. This information is summarized in Table 8 below.

[14] The number of systems in violation includes the RTC violations.

[15] One CWS in noncompliance with Public Education TT requirements under the LCR was RTC by the State in 2007, but this data is not correctly reflected in SDWIS. HQ has been contacted to correct this data anomaly.

Table 8. CWS LCR Health-based Violation Types Within the Last Four Quarters Between 7/1/2019 and 6/30/2020

Violation Code	Violation Type	Number of Violations	Number of RTC Violations/Systems	Number of CWS in Violation
57	OCCT Study Recommendation	1	----	1
58	OCCT Installation/ Demonstration	0	----	0
59	Water Quality Parameter Entry Point Noncompliance	2	1	2
65	Public Education	1	0	1

Data Source: See file named B02_CWS LCR HB Viol_count_Oct2020.xlsx

The LCR requires water systems to notify consumers of their lead sample results in a LCN. An LCN violation is only RTC after the system has provided the LCN to consumers and certified that the LCN was provided to the consumers who had their taps sampled. EGLE staff track submittal of LCN certifications and submit CWS LCN violations, and LHDs track the submittal of LCN certifications from NTNCWSs. EGLE began issuing and reporting some NTNCWSs LCN violations to EPA in May 2019 for systems that failed to submit LCN certification to the LHDs. EGLE reported very few NTNCWS LCN violations in 2020 since LCN violations are reported outside of WaterTrack, which requires additional staff support. No additional staff, however, were available due to losing two key noncommunity staff, the hiring freeze, effects of the Covid-19 pandemic that included staff furloughs, prioritizing new State LCR requirements and State PFAS rules. The State commits to update the phased schedule, however, for full reporting of LCN violations with new targets during FY 2021.

The lack of issuing the LCN or submitting the certification is a subset of the M/R violations (a Type 66 violation) provided in Table 7 above. EGLE reported 33 LCN violations at 22 CWSs and 8 NTNCWSs in FY 2020. Of these 33 LCN violations, 30 violations were RTC (91%).

In partnership with Michigan Department of Education and Michigan Department of Licensing and Regulatory Affairs, EGLE continued to implement and promote a voluntary school program, which includes a "Healthy Water Healthy Kids" initiative to promote school water management practices and sampling for schools that receive water from a CWS. Due to the State's suspension of face-to-face learning due to Covid-19 in K-12 schools, EGLE issued flushing guidance (April 23, 2020) to schools not in daily use, prior to resuming class in person. Templates for public notice by schools are located on EGLE's website: www.michigan.gov/schoolwater.

Under EPA's voluntary Lead Testing in Schools and Child-Care grant program authorized under the WIIN Act, EPA awarded Michigan $1,190,000 on December 30, 2019. EGLE implemented a program in FY 2020 to sample for lead in schools and child-care facilities. EGLE received $681,000 in additional funding in FY 2020 to continue voluntary lead testing at schools and child-care facilities.

Other highlights include:

- In FY 2020, Michigan funded three LSLR projects through its DWSRF totaling $24.3 million. Of this amount, $21 million went to Kalamazoo.
- Implementation of new Michigan SDWA LCR distribution system and materials inventory (DSMI) requirements involved EGLE direct mailing to NTNCWSs and tracking of certifications of awareness of lead in plumbing materials and of appropriate sampling locations.
- EGLE offered targeted LCR training to operators during FY 2020, with particular emphasis on new Michigan LCR requirements. This training was conducted online in 2020 due to Covid-19 restrictions.
- EGLE spent significant time providing enhanced technical assistance to water supplies with ALE responses to ensure an understanding of the complex state LCR. EGLE coordinated with the MDHHS and LHDs regarding communication and proper implementation of follow-up actions and PN requirements.
- DWEHD's LCU staff processed receipt of newly required sampling pools and preliminary DMSIs, that were due January 1, 2020 as required by Michigan's new LCR. Preliminary DMSI summaries have been posted on the state website, https://www.michigan.gov/documents/egle/egle-dwehd-PDSMISummaryData_682673_7.pdf
- Staffing was added to DWEHD's LCU during FY 2020. Currently, staffing includes a supervisor, a LCR specialist, three LCR analysts, a corrosion control engineer, a schools and outreach specialist, and an office assistant. Additional staffing is being evaluated for FY 2021.
- EPA Region 5 provided reference information to assist with State review of EPA's LCR revisions proposed in October 2019, and EGLE submitted comments to EPA during the public comment period which closed in February 2020.

EPA appreciates EGLE staff contributions in the EPA Region 5 LCR/Optimal Corrosion Control Treatment (OCCT) workgroup formed in 2018, at States' request, for States and EPA to share recent research, lessons learned, and best practices related to OCCT and LCR implementation.

Rule Implementation: Disinfectants and Disinfection Byproducts Rules (D/DBPR)

EGLE's implementation of the D/DBP rules is effective; violations are being addressed in a timely manner. While EGLE's Area-Wide Optimization Program (AWOP) program is mainly focused on microbial contaminants and turbidity at surface water treatment plants, EGLE is conducting training and discussions on the AWOP tools for disinfection by-products. The State and LHD staff are providing necessary technical assistance as needed.

There were no Maximum Residual Disinfectant Residuals (MRDL) violations for PWS. However, the NCWS data system, WaterTrack, cannot track or report MRDL, even though, the required sampling at NCWSs that disinfect is taking place. The State's plan and phased schedule for full implementation of a NCWS data management system is provided in the FY 2020 Implementation Plan and is summarized below:

- NCWS program is now using SDWIS-State to improve federal reporting;
- Required reporting data elements in WaterTrack are migrated to this instance of SDWIS-State;

- Worked towards completing electronic submittal of LHD Excel spreadsheets to SDWIS-State;
- Identified pathways to get previously unreported violations migrated to SDWIS-State; and,
- Working with an EPA vendor on long-term planning to transition to EPA replacement of SDWIS-State.

Table 9 below shows that Stage 2 D/DBPR M/R violations is the largest category of noncompliance. The one CWS with a Stage 2 D/DBPR MCL violation serves fewer than 100 people. EGLE has done a great job returning all Stage 1 D/DBPR violations to compliance. Both of the CWSs that had a Stage 1 D/DBPR TT violation were due to failure to have a certified operator (Type 12). All 7 of the Stage 1 D/DBPR M/R violations were for failure to sample for chlorine (Type 27). Region 5 encourages EGLE to work to return to compliance the older Stage 2 D/DBPR violations along with continued work to RTC newer D/DBPR violations.

Table 9. D/DBPR violations in both CWSs and NCWSs in Michigan within Four Quarters Between 7/1/2019 and 6/30/2020

Violation Category	Number of Violations	Number of RTC Violations	Percent RTC Violations	Number of Systems in Violation	Number of Consecutive Systems in Violation
Stage 1 D/DBPR TT	2	2	100%	2	0
Stage 1 D/DBPR M/R	7	7	100%	7	2
Stage 2 D/DBPR MCL	1	0	0%	1	0
Stage 2 D/DBPR M/R	179	45	25.1%	93	30

Data Source: See file named EOY_4_Rule Violation Reporting_Oct2020.xlsx
Note: Number of Systems in Violation includes systems (23 systems including 16 that are consecutives) with all violations RTC'd.

EPA Region 5 recommends EGLE continue to ensure Type 12 TT violations are reported for the lack of a state-qualified operator at any CWS or NTNCWS that adds a chemical disinfectant in any part of the drinking water treatment process (40 CFR 141.130). We recognize that EGLE has a process for addressing operator certification noncompliance, including at systems that do not disinfect. While EGLE has been reporting Type 12 TT violations to SDWIS-Fed for CWSs, EPA Region 5 hopes progress can be made in FY 2021 for the Type 12 violations to be reported for NTNCWSs.

Rule Implementation: Public Notification Rule

When rule violations are issued, EGLE notifies CWSs of all PN requirements and provides a PN template to the water supply enclosed with the violation notice. CWS Tier 1 and Tier 2 PN violations are issued regularly and followed up on. Federal reporting of Tier 1 and Tier 2 PN violations at CWS is occurring. Reporting of Tier 3 PN violations has gradually improved over the past 5 years, but routine reporting of CWS and NCWS Tier 3 PN violations is not occurring (See Table 10 below).

Reporting of PN violations for the NCWS program continues to be a challenge due to the NCWS IT issues. PN violations are not currently issued, but EGLE has identified a path forward to issue and report Tier 1 and Tier 2 PN violations and will be in place by the end of FY 2021. Procedures and templates for issuing and reporting Tier 1 and Tier 2 PN violations at NCWS are being developed and are expected to be in use by LHDs by the end of FY 2021. Tier 3 PNs for NCWS are difficult to report also due to data management issues. This will be reviewed further during the FY 2022 File Review.

EGLE's move towards full implementation of the PN rule in FY 2020 progressed as committed to in the Michigan CAP and FY 2020 Implementation Plan; although fewer resources caused by the Covid-19 pandemic and EPA's decision to delay SDWIS/Prime development, slowed the process. If PN is performed incorrectly, the State has committed in the CAP that State/LHD will issue a PN violation (a past TNCWS issue). Tier 3 PNs are often reported in CWS Customer Confidence Reports (CCR). EGLE analysts send Notice of Violation notices (NOV) for failure to prepare CCRs and for deficient CCR content. Significant staff time is allocated for CWS CCR content reviews. Additionally, EGLE continues to make available on the website, by July 1 of each year or within 30 days of receipt of the EPA Annual Compliance Report (ACR) Guidance, a list of water supply violations with Tier 3 PN requirements. EPA Region 5 verified that these violations are provided on its website.

Table 10 below describes Michigan's PN violations by tier and system type from FY 2018 through FY 2020 that were reported to SDWIS/Fed as of January 2021. This data set includes Type 75 violations, which are PN violations for NPDWR violations. The State reports it is reporting all Tier 1 and Tier 2 CWS PN violations to SDWIS and a data review supports that violations are being reported. While the NCWS program has reported three Tier 3 PN Violations to EPA's Federal database, they have been unable to report Tier 1 and Tier 2 NCWS PN violations, thus there is under-reporting to EPA's Federal database for the numerous NCWSs due to challenges in FY 2020 with data management. By a look at the total number of violations within the four quarters between 7/1/2019 and 6/30/2020 for all Michigan PWS types in Table 3 above, for the M/R violations alone the total number of systems that triggered Tier 3 PN is over 2000. While the State has provided a list of systems that were required to do Tier 3 PN for the past 3 years, they have not determined specifically which systems had a Tier 3 PN violation.

Table 10. PN Violations in Michigan by Tier and System Type Between FY 2018 through FY 2020, as of January 2021

Michigan	Tier 1 PN viol	Tier 2 PN viol	Tier 3 PN viol	Total viol	# viol RTC
CWS	2	3		5	5
NTNCWS			1	1	1
TNCWS			2	2	2

Data Source: See file named PnViolsFy18n19n20_REV.xlsx

Since Tier 3 PNs notify the public of missed monitoring or late reporting (as opposed to immediate health concerns) and are not required to be distributed for up to 12 months after the missed event, EGLE has determined enforcement of these notices as a lower priority.

Due to resource limitations, EGLE places enforcement priority on failure to issue Tier 1 and/or Tier 2 PN or if the PN is performed incorrectly. EGLE will continue to fully enforce Tier 1 and 2 PN, which serve to inform the public of direct threats to health, such as an exceedance of drinking water standards, and provide health and exposure mitigation information. EGLE will continue to focus resources on improving issuance of Tier 1 and Tier 2 PNs. When a system is placed under a formal enforcement order, EGLE does include the PN violations in the enforcement order.

Sanitary Surveys

EGLE district staff perform CWS sanitary surveys. The LHDs are under contract by the State to perform sanitary surveys at all NCWSs and the State conducts an annual audit at each LHD that evaluates and assures all sanitary survey elements are performed by LHD. Audits in 2020 were largely completed before the pandemic hit.

For NCWSs, the completeness of sanitary surveys is assured and evaluated largely using the NCWS program's database of record, WaterTrack. A WaterTrack report status of 'Sanitary Surveys Not Completed' indicates a PWS where the survey has begun but it is not yet completed. Through the contracts between EGLE and individual LHDs to conduct the sanitary surveys at NCWSs, the LHDs also review the sampling sites. Annual audits of LHD NCWS programs conducted by EGLE provide an opportunity to evaluate and assure all sanitary survey elements are reviewed.

During FY 2020, however, the Covid-19 pandemic caused severe resource constraints, a hiring freeze, and staff furloughs in the drinking water program which resulted in the staff not being able to complete sanitary surveys as scheduled. Remote sanitary surveys (conducted over a series of visits) were implemented in the spring of 2020, and the State issued a "partial sanitary survey" letter that was based on the remote survey(s). Field work started in June 2020, but only "critical' field work, including sanitary surveys, was conducted. A final sanitary survey letter was then issued to the system after field work restrictions were lifted and a final on-site inspection could be conducted. For safety purposes, the State continues to conduct a significant portion of sanitary

surveys remotely, to limit on-site visit time and on-site in-person inspection of facilities. As a result of these factors, EGLE was unable to meet its sanitary survey target of 400 CWS surveys during FY 2020.

While CWSs are required to have a sanitary survey once every three years and NCWS once every five years, the Interim Enhanced Surface Water Treatment Rule (IESWTR) and GWR implementation guidances support the use of full calendar years to evaluate sanitary survey frequency. Michigan does extend sanitary surveys to the end of a calendar year for all its PWSs. EGLE does not utilize the federal option to designate a CWS system as "outstanding" which would result in less frequent surveys (once every five years).

EPA Region 5 has been measuring progress being made on the percent of sanitary surveys completed within the required timeframes for a number of years. Table 11 below, shows that Michigan CWSs are meeting 89.9% sanitary survey completeness within three years, NTNCWSs are meeting 96.1% and TNCWSs are meeting 94.9% of sanitary surveys completed. This is a notable achievement especially during the challenges that the Covid-19 pandemic brought and the hiring freeze. EPA Region 5 would like to work with EGLE towards maintaining a target of 90% for sanitary survey completeness.

EPA Region 5 also conducted a data analysis to determine if States were reporting sanitary surveys late. No significant late reporting issue was found for Michigan between April 2020 and October 2020.

Table 11. SDWIS/Fed data of Michigan public water systems with sanitary surveys conducted withing a Rolling 3- or 5-year frequency, as of 6/30/2020[16]

System type, required frequency, and Calendar Years represented	# PWSs[17]	# Sanitary Surveys completed	% of surveys completed
CWS (every 3 years) **2017-2019**	1,369	1,230	89.9%
NTNCWS (every 5 years) **2015-2019**	1,217	1,170	96.1%
TNCWS (every 5 years) **2015-2019**	7,281	6,912	94.9%

Data Source: For 7/1/2017-6/30/2020 (CWS) and 7/1/2015-6/30/2020 (NCWS) data, see file named UPDATED_EOY_2_Sanitary Survey Completeness_October2020.xlsx

EGLE began funding its participation in EPA's national Area-Wide Optimization Program (AWOP) several years ago, a voluntary program that focuses on optimizing microbial and

[16] In the past, EPA Region 5 has evaluated sanitary survey completeness based on calendar year using the April SDWIS/Fed freeze, which includes state data through compliance period ending 12/31 of the previous year. This is the first year EPA Region 5 is evaluating this data based on the October 2020 SDWIS/Fed freeze, which includes state data through 6/30/2020. In addition, EPA's GWR and Interim Enhanced Surface Water Treatment Rule implementation guidance supports the use of full calendar years to evaluate sanitary survey frequency; for example, the guidance indicates that for a survey conducted in June, the state has until December of the next three- (or five-) year cycle (for CWS or NCWS, respectively) to complete the next survey for that system.

[17] The number of systems in each category in Table 11 is smaller than in the inventory in Table 1 (EOY.1), because the EOY.1 inventory spreadsheet includes inactive systems; Table 11 (EOY.2) includes only active systems as of October 2020. However, these systems may not have been active during the entire previous three- or five-years.

turbidity quality, disinfection byproduct control and distribution water quality at water systems, to enhance its drinking water program. EGLE believes that AWOP has provided many direct benefits to protecting public health, and water systems are seeing the value in the program. These benefits include: a reduction in noncompliance, increased access to technical training for State and water system staff; increased communication and networking opportunities; a better understanding of water facility operation to enhance performance; recognition opportunities for high performing systems; and improved public confidence.

The CWS program continued to maintain specialized surface water engineering positions, allowing focus and consistency of oversight of water systems' and their treatment operations; and to continue to improve timeliness of sanitary surveys. A routine component of each surface water sanitary survey has been to discuss the AWOP broadly. Data integrity is a strict point of emphasis during surface water sanitary surveys. (See Operator Certification section for more information on AWOP in Michigan.) In FY 2020, the CWS program was unsuccessful in hiring additional surface water engineers to provide further engineering support for surface water systems, due to the Covid-19 pandemic restrictions and hiring freeze. Hiring is being conducted, however, in FY 2021. It is critical for the State and PWSs to have sufficient resources to achieve the full benefits of the AWOP program.

The State also conducts technical assistance site visits (surveillance) at CWSs with problems. The State tries to visit each CWS at least once a year and tries to visit water systems with a complete treatment plant (for surface water) four times per year (limited treatment plants are visited twice a year).These technical assistance site visits are routine although EGLE can schedule problem driven technical assistance visits as needed. Sanitary surveys are prioritized over technical assistance site visits.

The requirements for conducting these sanitary surveys are provided in Part 7 of Michigan's Administrative Rules, Supplying Water to the Public. All 8 federally required elements are addressed during a sanitary survey. The CWS and NCWS programs maintain a summary form that identifies all eight elements of a sanitary survey. These forms include sub-categories to assess deficiencies. EGLE's CWS program revised/upgraded procedures for sanitary surveys by moving to a checklist style of report, to ensure more consistent implementation of its sanitary survey program.

More deficiencies at water systems have been identified in 2019 and 2020 as a result of EGLE's improvements to its sanitary survey process. Consistency of sanitary surveys has improved over the past several years as a result of the improved sanitary survey procedures and more deficiencies have been identified. The program continued to review and refine the process in FY 2020, including adjustments to the checklists and metrics. EGLE reported 6 GWR TT violations at 5 CWSs for failure to address a deficiency (Type 45 violations) as of June 30, 2020, where 2 systems were RTC.

The CWS program has noted that an additional benefit to designating deficiencies during sanitary surveys has resulted in resolution of several source capacity (not enough water) issues. The State has found that this new program under the GWR was worth the investment of time for long-term public health protection.

EPA reviews SDWIS/Fed and documentation of sanitary surveys and the correction of significant deficiencies as part of periodic on-site PWSS Program File Reviews to ensure proper

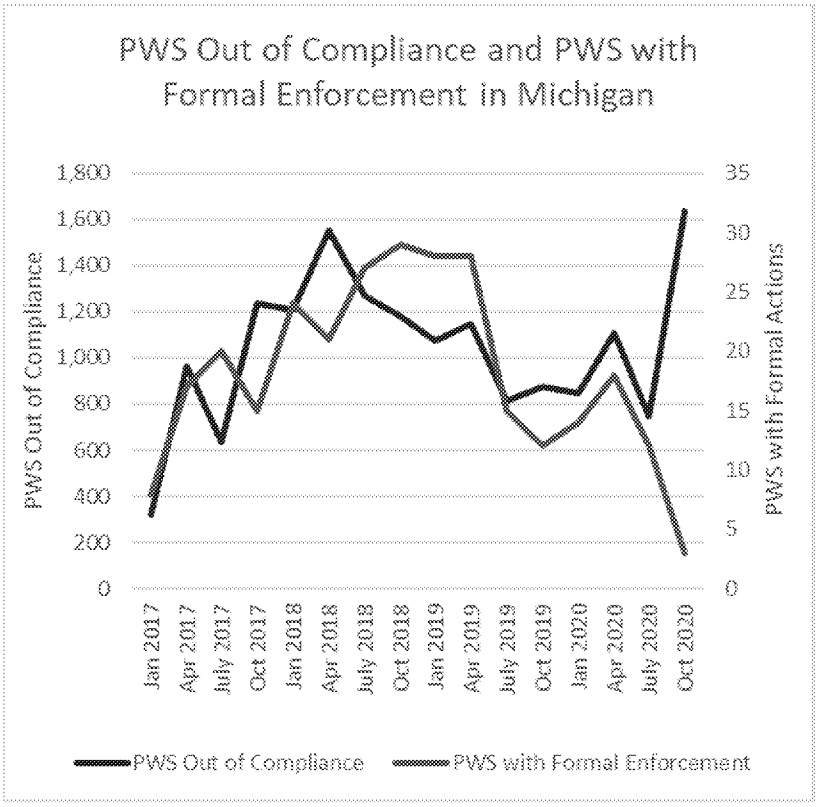
implementation of sanitary survey requirements. EGLE follows through with the sanitary surveys identifying significant deficiencies at groundwater PWSs as noted by the GWR TT violations assigned by EGLE if significant deficiencies are not addressed within 120 days, unless another enforceable schedule is in place. Enhanced GWR implementation is evident in Michigan; GWR TT violations for unaddressed deficiencies show a slight increase since 2017, attributed in part to State's improved sanitary survey process, which has increased the number of significant deficiencies.

Compliance and Enforcement

An extensive review of EGLE's compliance and enforcement processes was completed as part of the EPA Region 5's 2016 Program Review of EGLE's Drinking Water Program (report issued on October 24, 2017). EGLE is working to update its compliance and enforcement strategy as discussed in the CAP, and its data systems, which will provide a stronger foundation for the enforcement program in Michigan. The CAP provides a list of activities necessary for EGLE to complete to improve compliance with State and Federal regulations, including enforcement. For example, the CAP notes that the State must assign and report various violations. In addition, EPA recommends refresher-training of staff to ensure violation and enforcement data including return to compliance or addressing actions, is appropriately linked, to avoid future delays in reporting to SDWIS/Fed.

Figure 2 below shows trends for the number of PWS out of compliance and the number of PWS with formal enforcement between January 2017 and October 2020. The early trends through July 2019 shows active formal enforcement being taken by the State to bring systems back into compliance. However, a downward trend in formal enforcement actions since then, along with a sharp increase in PWSs out of compliance in October 2020 raises some concern to EPA Region 5 about the timeliness of enforcement actions. This may be a result of the Covid-19 pandemic impacts including a hiring freeze, State-wide staff furloughs for 10 weeks in early-mid 2020 and State staff's inability to provide face-to-face technical assistance to PWSs. Furthermore, EGLE informed EPA that the downward trend in enforcement actions is related to COVID-19 and the state agency encouraged LHDs to keep sampling requirements in place throughout the COVID-19 related shutdown and allowed for enforcement discretion.

Figure 2. Number of PWSs Out of Compliance (with any SDWIS-reportable violation for any NPDWR) and Number of PWS with Formal Enforcement between January 2017 and October 2020



While trends of increasing non-compliance occurred during FY 2020, EGLE is currently hiring additional drinking water staff. State data reports indicate that EGLE continues to improve its data reporting and continues to communicate with EPA Region 5 regarding enforcement issues. It is important to note that EPA Region 5's realignment has improved its ability/capacity to assist EGLE with formal enforcement and the relationship between the two agencies regarding enforcement. EPA Region 5 expects to see improvements in issuing formal enforcement post-EGLE hiring freeze in 2021.

Under EPA's ERP, a primacy agency must address with a formal enforcement action or RTC within two calendar quarters the number of priority systems equal to the number of its PWS that have a score of 11 or higher on the ETT report. Each quarter, EPA Region 5 tracks state commitments and provides a status update to the State. EPA Region 5 is requesting that EGLE commit to following the ERP by issuing timely (within two calendar quarters) formal enforcement orders for systems in priority status.

As indicated in Table 12 below, while the number of priority systems has increased to 80 from the beginning of 2020, the number in priority status for 4 or more consecutive quarters remained relatively low at 19 PWSs. Based upon reporting by EGLE they noted that 34 of 80 priority systems (which were priority systems for three or more consecutive quarters) were addressed (RTC) in FY 2020. Overall, of the violations reported during the timeframe of July 1, 2019

through June 30, 2020, EGLE returned to compliance 67% of violations within 6 months, and 85% of violations within 12 months. (ETT Standard Reports for April2020 and Oct2020)

Table 12. Number of Systems in Priority Status for Four or More Consecutive Quarters

Quarterly Compliance Letter SDWIS/Fed Data Freeze	Total PWS	CWS	NTNCWS	TNCWS
October 2020	19 (out of 80 priority systems)	0	4	15
July 2020	17 (out of 59 priority systems)	1	4	12
April 2020	19 (out of 74 priority systems)	1	4	14
January 2020	25 (out of 41 priority systems	1	4	20

Data Source: January, April, July, and October 2020 ETT Scores Tracker Reports.

Further during FY 2020, EGLE continued to enforce items listed in the annual PWSS workplan under state commitments by issuing appropriate violations, administrative fines, and escalated enforcement activities when appropriate. Approximately 10 ACOs were issued in FY 2020 that addressed significant deficiencies and health-based violations; 50% fewer ACOs than issued in FY 2019. The CWS program also expanded enforcement of lower-priority reporting violations during FY 2020 to include issuance of violations for excessively late reporting for all rules. Currently, EGLE has referred 3 TNCWSs to EPA Region 5 for enforcement.

The DWEHD participated in an EGLE-wide comprehensive enforcement strategy review during FY 2020; DWEHD wants to ensure its new enforcement policies align with EPA's National Compliance Initiative. Based on outcomes of this process, the DWEHD continues to evaluate/update compliance and enforcement policies and procedures, as necessary.

Additional enforcement activities conducted by DWEHD in FY 2020 include:

- Formal enforcement was initiated against several NCWSs out of compliance with drinking water standards, monitoring requirements, construction, maintenance requirements, or annual fee obligations.
- Worked with EPA Region 5 on high-priority water supply issues and participated in enforcement update calls with Region 5 enforcement staff.
- Formal enforcement was initiated with CWSs to enter into ACOs to address significant deficiencies, capacity issues, treatment issues, HB violations, and corrosion control issues.
- Assisted a municipal water system, population 9,900, using surface water with navigating the requirements of their ACO and ongoing violations. The assistance continues to be necessary as the CWS lacks necessary technical, managerial and financial capacity to run their water utility.

Capacity Development and Small Systems

During FY 2020, EPA Region 5 finds that EGLE has an effective Capacity Development program. EGLE ensures that CWSs and NTNCWSs are demonstrating technical, managerial, and financial capacity using data from sanitary surveys, systems out of compliance and reviewing operator certifications. EGLE provides documentation to EPA Region 5 annually at the end of the calendar year to demonstrate its successful implementation of the Capacity Development Program for New Systems and the Capacity Development Strategy for Existing Systems. The FY 2020 Capacity Development Report was received by the deadline and approved by EPA Region 5 on March 19, 2021. EGLE also submitted the 2020 Capacity Development Report to the Governor by October 1, 2020.

EGLE uses its DWSRF set-aside funds to support its drinking water program and capacity development program, including funding 48.8 FTEs in 2020.

EGLE began evaluating its existing Capacity Development Strategy during FY 2020 in anticipation of FY 2021 updates required under the American Water Infrastructure Act (AWIA). EGLE is working with an EPA technical assistance provider (EFC Network) on this project. DWSRF set-asides funded staff coordinate with EFC Network on this project.

To assist existing CWSs improve financial capacity, EGLE conducts free financial assessments for CWSs serving a population of less than 10,000 if requested and develops a Financial Action Plan (FAP). A FAP is a tailor-made, comprehensive plan that strengthens the system's financial capacity, identifies short and long-term goals, and creates a step-by-step process to reach the goals. In the past five years, AM has become an integrated component of the FAP. In FY 2020, 6 new CWSs became active, each required to meet financial adequacy requirements; LHDs assisted with 9 capacity development assessments at new NTNCWSs in FY 2020.

EGLE is a leader in asset management (AM) efforts and is implementing regulations requiring AM for CWSs serving population of greater than 1,000 people. Michigan's requirements of CWSs having AM plans is making a difference in preventing new HB violations at CWSs.

New systems must demonstrate capacity through construction permit and final inspection process. As it was reported, none of the new systems activated between 2018 and 2020 had an ETT score of 11 or greater. This is an indicator of the strength of EGLE's New Systems Program, which applies to new CWS and NTNCWS.

EPA Region 5 acknowledges EGLE for its commitment to staff and PWS training during the Covid-19 pandemic. EGLE's Rules School all-day training series (four sessions) for CWS and NCWS staff was held in 2020 and attendance was required for all technical staff. A variety of topics such as PFAS in drinking water, emergency management, and health and safety were discussed. Though numerous trainings for PWSs throughout FY 2020 were canceled due to the Covid-19 pandemic, the State is congratulated for the many virtual, on-line webinar/trainings conducted by State staff. Staff developed instructional videos and posted on the State website. Videos include sampling techniques, completing reports and applications, webinars on regulations, and monitoring and reporting requirements. EGLE transitioned many basic CWS training courses (cross connection control, water treatment, distribution, math, hydraulics) to virtual format to expand water system/operator access to these classes.

EGLE worked with communities, advocacy groups, and MDHHS to create an updated guidance document for flushing homes after an extended shutoff. In addition, a video was developed to further illustrate the procedure. The efforts are designed to support the reconnection efforts by the cities of Detroit, Flint, and others as water services are being restored in response to the Covid-19 pandemic.

EGLE staff assisted the Office of the Clean Water Public Advocate in developing a drinking water concern website and reporting tool. This allows Michigan residents to find answers about the most common drinking water quality issues and solutions for people connected to a PWS. This included contact information for how to directly contact their water supplier with concerns, testing, and more information and the online drinking water concern website that provides a direct channel to EGLE for submitting water quality concerns for improved public health protection.

Two additional measures that EPA Region 5 uses to measure the strength of Michigan's capacity development program include looking at small systems with repeat HB violations and the percent of schools and child-care centers that meet all HB standards. As of October 2020, over the last four quarters, the percent of small CWS and NTNCWS (<10,000 population) with repeat HB violations was 0.04% (1/2,590)[18] and the percent of schools and child-care centers that meet all HB standards was 97.8% (610/624).[19] Both percentages show a strong focus on systems with HB violations.

One of the greatest challenges are for the water systems in Michigan that are classified as small (populations less than or equal to 10,000), shown in Table 13 below. Many of these systems need additional assistance to understand and implement EPA drinking water rules. For CWSs, NTNCWSs and TNCWSs, approximately 10,700 systems are small which is extremely resource-intensive to provide technical assistance and maintain compliance.

Table 13. Michigan Small Systems (serving fewer than 10,000 persons)

Type of System	Total number of systems	Number of Small Systems	Percentage of Small Systems
CWS	1,385	1,249	90.2%
NTNCWS	1,341	1,341	100%
TNCWS	8,151	8,151	100%

Data Source: EOY_1_PWS Inventory Oct 2020Q3

EGLE has a cooperative relationship with Michigan Rural Water Association and Great Lakes Community Assistance Partnership (GLCAP) who provide technical assistance and training to small systems. EGLE staff met with GLCAP several times during 2020 to discuss project and training needs. EGLE continues its focus on regionalization to decrease the number of small system ongoing compliance issues by encouraging them to connect to larger systems. EGLE has facilitated the connection of PWS to municipal CWSs, in FY 2020, using State funding grant called "Drinking Water Contaminant Remediation Grant". In addition, DWSRF funds were used to extend water and consolidate some mobile home parks to municipal CWSs.

[18] Source: EOY.6 (small system repeat HB violations), October 2020. Also, the HB violations include: nitrate and nitrite, Stage 1 D/DBPR, SWTR, and RTCR.
[19] Source: EOY.7 (number/percent schools/child-cares meeting HB standards), October 2020.

EGLE began funding its participation in EPA's national Area-Wide Optimization Program (AWOP) several years ago, a voluntary program that focuses on optimizing microbial and turbidity quality, disinfection byproduct control and distribution water quality at water systems, to enhance its drinking water program. EGLE believes that AWOP has provided many direct benefits to protecting public health, and water systems are seeing the value in the program. These benefits include: a reduction in noncompliance, increased access to technical training for State and water system staff; increased communication and networking opportunities; a better understanding of water facility operation to enhance performance; recognition opportunities for high performing systems; and improved public confidence. Unfortunately, during FY 2020, the Covid-19 pandemic caused financial limitations at PWSs and the State, that limited the work conducted by the AWOP program. It is critical for the State and PWSs to have sufficient resources to secure staff and allow training and travel to achieve the full benefits of the AWOP program.

Operator Certification

EGLE submitted its annual Operator Certification Reports for FY 2020 to EPA Region 5 by the applicable deadline. EPA Region 5's 2020 approval letter dated March 24, 2021, confirmed that EGLE continues to implement an acceptable Operator Certification Program and that 20% of the DWSRF grant would not be withheld. EGLE provided operator certification training or coordinated with external training providers to ensure operators are certified. The overall compliance rates for operator certification requirements FY 2020 were deemed acceptable at 95.2%. See Table 14 below. All CWS without an operator in charge in 2019 and 2020 have since been addressed.

Table 14. Michigan Percent of CWSs, NTNCWSs & TNCWSs with Drinking Water Certified Operators, by year

Year	Number of systems that are required to have an OIC[20]/number of systems without OIC during SFY			Total Number of Systems	Total Number of Systems with Certified Operators	Percentage of Systems with Certified Operators
	CWS	*NTNCWS*	*TNCWS*	*All*	*CWS & NTNCWS*	*CWS & NTNCWS*
2020	1,381/6	1,301/122	78/0	2,760	2,554	95.2%
2019	1,388/3	1,300/10	79/6	2,767	2,748	99.3%
2018	1,385/2	1,310/86	71/0	2,766	2,695	96.8%[21]
2017	1,389/2	1,309/85	60/0	2,758	2,630	98.6%
2016	1,386/2	1,299/35	65/2	2,750	2,711	98.6%

Shortcomings still occurred in FY 2020 and led to an increase in NTNCWSs without an operator in charge, from 10 systems in 2019 to 122 systems in 2020. This has a direct impact on public health protection. The compliance drop is attributed to training and exam cancellations and LHD

[20] OIC means Operator in Charge.

[21] Data cannot be compared between years prior to and including 2017 and 2018/2019. The difference in 2018 and 2019 total number of violations of CWSs without an operator is due to MI's reporting of only 3 quarters of data up thru 2017, but in 2018 and 2019, reporting represented 4 quarters of data which included more violations and a lower compliance rate.

limitations/reassignments due to the Covid-19 pandemic. The successful certified operator exam, however, in November 2020 allowed numerous operators to regain their licenses. It is also noted that there was a decrease in TNCWSs without an operator in charge from 6 systems in 2019 to 0 systems in 2020. This is a notable achievement.

EGLE has taken steps to ensure continuity of the operator certification program throughout the Covid-19 pandemic. Operator Certification exams typically held in May, were re-scheduled to July and later cancelled. But the State dedicated significant resources to proctor the November 2020 exams under State health guidelines, approving additional virtual training courses and sharing a list of virtual courses on the EGLE website. They also transitioned State-sponsored courses to virtual events, participated remotely in events to maintain relationships critical to stakeholder involvement, and provided regular updates to operators and the public via EGLE's website. EGLE also provided extensions for operator certifications with April 2020 and July 2020 expiration dates in order to allow three additional months to find online options and complete the required continuing education credits. The Operator Training and Certification Unit (OTCU) received 1,250 certification exam applications in FY 2020. This is a decrease over prior years, likely due to the Covid-19 pandemic.

In FY 2020, 1,368 operators were required to renew their certificates or lose their certifications. Of the 1,368 operators, 968 operators renewed their certificates and 351 new certificates were issued to CWS and NCWS operators which is a large reduction in new certificates from FY 2019 (802 certificates). This is most likely as a result of the Covid-19 pandemic.

EPA Region 5 commends the State for continuing to phase out conditional/restricted operators (grandfathered certifications). There were only 139 of such operators active in FY 2020; a reduction from 153 in FY 2019.

Overall, EPA Region 5 recognizes Operator Certification program improvement efforts completed by EGLE in SFY 2019-2020, including coordination with other state staff involved in drinking water oversight (e.g., regarding operators' certification status), updated and new exam questions (e.g., reflecting the state's new lead and copper rule that is more stringent than the federal rule), updated and new training courses, as well as additional improvements to the State's Operator Certification website.

Enhancements to the Operator Training and Certification Tracking system are included in EGLE's IT Modernization upgrade project currently underway. In the Operator Certification Program's FY 2020 Annual Report, EGLE provided updates on the operator certification program's anticipated IT upgrades (e.g., to automate examination and renewal applications) and on hiring for an engineer position to support curriculum development, exam question development, and enforcement activities. Refer to the Data Management section for more detail.

Data Management and Reliability

EGLE's data management capabilities have vastly improved over the past 5 years and continue to improve even though there remain shortfalls. EPA Region 5 has regular check-in meetings with the State for updates on progress regarding the CWS and NCWS data management systems, but also for EPA Region 5 to offer assistance to the State. Progress was slowed during FY 2020 due to the Covid-19 pandemic, yet the State has shown progress also as reported in the Michigan CAP.

EGLE was awarded $6.1 million to upgrade/modernize its IT systems for the drinking water program, DWEHD's IT Modernization Project. The contract was awarded in October 1, 2019 with extensive project development through FY 2020. This work, on the Michigan Environmental Health and Drinking Water Information System (MiEHDWIS), will continue throughout FY 2021 An additional $3 M was requested in FY 2020 from the DWSRF set-asides to continue this project. MiEHDWIS will interface with EPA's revised SDWIS platform and other software applications. This will provide needed upgrades to DWEHD data systems, including those used by CWS, NCWS, Operator Certification, and others.

In Fall 2019, EGLE was awarded a 2019 Exchange Network Grant from U.S. EPA Headquarters. Funds are being used to implement the CMDP; DWSRF set-asides funds supplemented this effort. Progress was tracked during FY 2020 through periodic conference calls between EPA and the State. EGLE has made strides in streamlining data flows from LHDs, setting up components of CMDP to enable electronic reporting from laboratories and water systems, and developing a modern IT strategy to better deliver data and information to staff and the public.

During FY 2020, EGLE continued to work with several EPA contractors, under a Blanket Purchase Agreement to assist with transition to EPA's CMDP and SDWIS-State software. The focus was to migrate NCWS data from State systems to SDWIS-State and to prepare to launch CMDP. EGLE's work toward SDWIS/Prime adoption was delayed due to EPA's decision to re-start SDWIS/Prime development. However, EGLE's priority shifted to focus on adopting CMDP, examining data validation tools and evaluating operator certification, and plan review software. In FY 2020, EGLE also continued to work with an EPA vendor contractor on the use of CMDP. However, the State IT office's SDWIS environment is making progress slow. It is hoped that vendor hosting for SDWIS/State will allow further progress on CMDP in FY 2021.

EGLE began work with a separate contractor to evaluate and potentially deploy tools such as SWIFT, SWIMR, and Cert Tracker, which support program activities and integrate with SDWIS/State. The contract should be secured and work underway in FY 2021.

Additional information about the CWS and NCWS program data management and reporting efforts are described below.

Community Water System Program

The Covid-19 pandemic caused many challenges for State Primacy Agencies to report their quarterly data submission data in 2020. EGLE's CWS Program was able to continue to report their data on time during FY 2020 despite these challenges and met its quarterly reporting requirement for violation and enforcement data to SDWIS/Fed for each of four quarters of FY 2020. EPA Region 5 is appreciative of the CWS program's ability to manage their primacy requirements for reporting data to EPA during this challenging time.

EGLE's CWS program currently uses SDWIS/State 3.33 for managing PWSS program information (latest version 3.4) and uses the FedRep version 3.51 (latest version 3.6) for reporting data to EPA. CWS RTCR violations have been reported to EPA through SDWIS/State since rule adoption in 2016.

EPA Region 5 has been encouraging the CWS program to fully utilize the SDWIS/State automated compliance assistance tool, Compliance Decision Support (CDS). EGLE has only been using CDS for RTCR, Radionuclides, LCR, Surface Water Treatment Rule Suite of rules, PN (partial), and GWR/significant deficiencies. During FY 2020, the EGLE CWS program transferred compliance determination for remaining rules to SDWIS/State, to the extent SDWIS/State effectively supports tracking activities. EPA continues to encourage full automation of CDS for all rules to streamline and automate compliance decisions. In addition, when new drinking water regulations become effective, it can be difficult for a State to change its data management capabilities quickly to begin reporting violations for new rules. EGLE, however, continues to increase its capability to report federal violations for the new rules. EPA Region 5 will continue to track CWS violation reporting to the federal database for new rules, along with the existing rules compliance determination automation progress.

The CWS program has also been tracking entry point chemical monitoring in a separate database since SDWIS/State does not handle sampling schedules the same way EGLE does and electronic reporting of sample data was not available to EGLE. With assistance from their vendor, CWS entry point schedules were migrated to SDWIS/State during FY 2020.

One important component of the quarterly reporting is correcting data errors in a timely manner to ensure high quality data in both SDWIS/State and SDWIS/Fed. The CWS program has struggled with correcting two types of Operational Data Store (ODS) errors in a timely manner over the last few fiscal years. "Timely manner" is defined as correcting the error(s) either in the quarter in which the error(s) first appeared on the ODS error report or in the next quarter. These ODS errors include (1) Source treated code and facility flow errors; and (2) Sanitary survey site visit errors. More detailed information is provided in Attachment 2.

Overall, EPA Region 5 recommends that EGLE's CWS program continue to address the data management issues discussed above including upgrading to the latest FedRep version for data reporting, fully utilizing the SDWIS/State automated compliance assistance tool, and address error corrections in a timely manner, as discussed in Attachment 2. EGLE has done a great job addressing the source treated code and facility flow errors have 0% needing to be fixed the next quarter. However, sanitary survey site visit errors was at 46% needing to be fixed the next quarter. The quality of a State's data in SDWIS/State is very important to the State's oversight of its water systems. Please ensure data in SDWIS/State is corrected the quarter the error(s) first appear on the ODS error report or the next quarter.

NonCommunity Water System (NCWS) Program

EGLE's NCWS program uses its legacy database, WaterTrack, and Michigan's Department of Technology Management and Budget (DTMB) maintains the software, programs and equipment for WaterTrack. EGLE's NCWS program currently uses SDWIS/State 3.33 (latest version 3.4), for managing NCWS program information, and uses the FedRep version 3.51 for reporting actions and sample data to EPA quarterly, and inventory at least annually. Use of the most current version of FedRep (3.6) would ensure reporting on all drinking water rules, including RTCR.

WaterTrack is unable to fully track and report recently updated regulatory requirements. It is unable to track some violations and assessment follow-up required under the RTCR, and cannot

report certain data to SDWIS/Fed, such as for the LCN certifications, GWR triggered source violations and Stage 2 D/DBPR. EGLE is partially reporting GWR violations for NCWSs to EPA.

The NCWS program did start to report several federal violation types during FY 2019 that WaterTrack is unable to track. During FY 2020, NCWS staff worked with a vendor to produce an updated spreadsheet for LHDs to report these violations. The vendor also developed a program that will automate transfer of violations from the new spreadsheet to SDWIS-State. LHDs will begin reporting using the revised spreadsheet in FY 2021, which will streamline the reporting process going forward.

EGLE's NCWS Program has been unable to consistently report required quarterly data in a timely manner to U.S. EPA. The Covid-19 pandemic provided additional challenges for the NCWS program to report their FY 2020 quarterly data submissions on time. Prior to the February 2020 data submission, the NCWS program lost a key data staff member, its NCWS SDWIS/Fed Coordinator, who had developed the migration of WaterTrack data to SDWIS/State. Documentation of the migration process was difficult for new staff to follow, and the Governor's stay-at-home order due to the Covid-19 pandemic added additional challenges for the new NCWS-SDWIS/Fed Coordinator. As a result, the NCWS program was late in reporting their March, May and August data. EPA Region 5 acknowledges all the effort and hard work the new NCWS-SDWIS/Fed Coordinator completed during FY 2020.

Two issues identified in the Fall of 2019 were resolved during FY 2020. These issues included: (1) incorrect date for an inactive public water system's deactivation date; and (2) open-ended LCR violation federal begin date. In the spring of 2020, EPA Region 5 raised two new issues that include (1) correcting most or all errors identified on the FedRep and ODS error reports in a timely manner; and (2) migration of WaterTrack data to SDWIS/State. These issues are still open. Attachment 3 provides more detailed information on these issues.

Overall, EPA Region 5 continues to monitor the NCWS program particularly under the CAP to address all of the NCWS program data management system issues in order to ensure the quality of data is constantly improving. Activities listed in the Michigan CAP for which EGLE has been making progress include copying NCWS data to SDWIS/State for easier federal reporting and for reporting some previously unreported NCWS violations to SDWIS/Fed. While the State is also making good progress to install and implement CMDP and continue its work on the IT Modernization Project, the NCWS Program will likely be unable to utilize CMDP until the federal replacement for SDWIS/State is available and both CWS and NCWS data have been migrated into it. EPA recommends that the State continue to prioritize correcting inventory errors, open-ended violations linked to SOX (return to compliance) codes in the ODS and report the required missing locational data.

Source Water Protection

EGLE annually reports to EPA the number of CWSs with source water protection (SWP) plans and the population served by those CWSs who benefit from minimized risk due to the SWP. While SWP is not a Federal or State requirement, SWP plans are encouraged for PWSs in Michigan. Michigan's SWP program continued to track CWSs designated as "substantially implementing" SWP efforts in SDWIS and reported to EPA quarterly during FY 2020.

For the Regional Program Measure, in FY 2020 Michigan achieved 30 percent of CWSs where risk to public health was minimized through "substantial implementation" of SWP as defined by EGLE; an improvement from FY 2019. Similarly, for the Regional Program Measure, in FY 2020 Michigan achieved 72 percent of the population served by CWSs where risk to public health is minimized through SWP; this percentage remained the same compared to FY 2019. EGLE also recommended that PWSs with existing SWP plans update the plan every 6 years, especially in prioritized areas. Only updated plans are considered implemented for purposes of the State's metric/definition of substantially implementing SWP.

EGLE's WHP Program, which covers the ground water systems, offers a 50/50 grant to CWSs to develop a WHP plan and conduct WHP activities to protect their source water from contamination. This program has been successful, but funding for this program has decreased over time. In FY 2020, the Source Water Protection Grant Program awarded a total of just over $402,000 from the DWSRF WHP set-aside to 38 CWSs for WHP and SWP activities; this is a decrease from FY 2019, when $491,000 was awarded to 43 CWSs. In addition, one community was awarded $15,000 to develop and implement a Surface Water Intake Protection plan.

In FY 2020, 20 CWS Source Water Assessments (SWAs) were completed by district staff, and 147 SWAs were completed by LHD staff at NTNCWSs. Building on earlier efforts to automate the SWA process, EGLE has developed an ArcGIS Survey123 computer application, which automates the production, submittal, and review of SWAs at NTNCWSs. It is believed that this process, once deployed, will increase the number of SWAs completed by LHDs.

Individual county level maps, displaying the range of arsenic found in private and public water wells, were created and posted to EGLE's website in 2019. These new maps complement EGLE's ongoing educational outreach targeted toward private well owners, including Be Well Informed and water quality factsheets updated in partnership with MDHHS.

In February 2020, staff and management of the Source Water Grant Program used the LEAN process to evaluate the program. Expected outcomes of the process in FY 2021 include: increased process efficiency and effectiveness; reviewing and clearly updating application submission guidelines, eligibility criteria, and reporting requirements; improving timeliness of grant disbursements; and identifying opportunities for outreach and other non-financial aid to grantees.

In October 2019, EGLE hosted a SWP Conference titled Building Successful Programs: Past, Present, and Future. The conference was intended for communities and PWSs to discuss SWP management options and steps to take to develop or enhance an existing program. Topics included ground and surface water protection issues, WHP, risk communication, funding initiatives, emerging contaminants, and state program updates.

Other Programs

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) in Drinking Water

The State promulgated MCLs for 7 PFAS analytes effective August 3, 2020 which were based on the Michigan PFAS Action Response Team (MPART) Science Advisory Workgroup Health Based Values. EGLE ensured 18 laboratories were state-certified for PFAS analyses prior to promulgation of the rule since EPA does not certify for PFAS analyses. All CWSs and

NTNCWSs in Michigan will be required to sample for the 7 PFAS analytes regularly, with about 28 previously tested PWSs anticipated to have detections above the MCLs.

To roll out this new rule, EGLE staff did a large amount of educational outreach in FY 2020 which included: providing training via webinars on new PFAS drinking water rules to PWS owners, operators, and LHD program staff; developing a PFAS drinking water rules dedicated website and supportive materials including Rules Overview, Rules Quick Reference Guide, Sampling Instructions and online sample collection instructional videos; and direct mailings to supplies and operators with their monitoring schedule. EGLE continued throughout FY 2020 to work with the MDHHS on methods of communication with water supplies and citizens in areas with PFAS levels of concern.

Initial sampling results conducted prior to the promulgation of the new PFAS rule, demonstrated that 90% of systems were non-detect, 6.5% of systems had results above non-detect but below 10 ppt. 3.5% of results were between 10-70 ppt. Two systems exceeded 70 ppt. Sampling in FY 2020 included quarterly monitoring conducted at water systems that previously detected more than 10 ppt and first-time sampling at additional NCWSs serving sensitive/vulnerable populations. Monthly monitoring was conducted at surface water systems. All results are available on the MPART website: https://www.michigan.gov/pfasresponse/.

In August 2020, EGLE staff focused on determining monitoring schedules and communicating to PWSs the transition from voluntary to regulatory sampling. Staff worked on creating public notification templates, collaborating with EGLE Laboratory certification staff. Initial monitoring began immediately after promulgation with initial samples due on or before February 3, 2021. Following PFAS MCL promulgation, the compliance monitoring costs are incurred by the supplies themselves.

The first monitoring period required by the State's new PFAS rule focused on elevated risk and unknown risk systems (fall 2020). In FY 2020, EGLE continued to contract with AECOM to conduct quarterly PFAS sampling at water supplies with previous results >10 parts per trillion (ppt), in continuation of 2018/2019 PFAS monitoring efforts.

Please note that EGLE received $300,000 in PWSS supplemental funding in FY 2020 to support PFAS activities. To date, this has funded sampling at NCWS with vulnerable populations and very small CWS with populations less than 100 which is helping these small systems meet the initial sampling requirements of Michigan's new PFAS rules.

Effective December 21, 2020, Michigan updated its cleanup criteria for groundwater used as drinking water to include the new State PFAS drinking water MCLs that are listed under Part 201 of the National Resources and Environmental Protection Act. Part 201 is Michigan's primary environmental cleanup program and provides the regulatory framework for most contaminated sites in the state.

Michigan has identified several PFAS contamination sources across the state. A comprehensive list of sites of high interest can be found at this link.

Harmful Algal Blooms

During summer and fall 2020, EGLE, in coordination with the MDHHS, worked with water supplies to conduct extensive cyanotoxin sampling, analyzing raw and finished water from participating supplies with surface water sources. Sampling schedules were based on the results of 2019 sampling. Samples were analyzed using EPA method 544 for microcystins and EPA method 545 for cylindrospermopsin and anatoxin-a. A response matrix and emergency response plan have been developed and detectable cyanotoxins are handled in accordance with these documents.

In FY 2020, staff adjusted the FY 2019 HAB monitoring strategy for all participating surface water supplies from monthly to sampling every two weeks and weekly sampling for those participating supplies with cyanotoxin detections in FY 2019 (11 systems). Analysis was completed for microcystins for all supplies with additional analysis for cylindrospermopsin and anatoxin-a for those facilities sampling weekly. Additional activities included coordinating with:

- MDHHS toxicologists to develop and coordinate a response action framework for HAB monitoring results; and
- EGLE's Water Resources Division staff to monitor HABs which could potentially impact drinking water intakes. This data is a resource for the Aquatic Nuisance Program as they assess permit language, notifications, and potential impact to drinking water sources.

A Multi-Purpose Grant from EPA Headquarters ($54,543) was awarded to MDHHS in FY 2020. This grant funded public health education and outreach activities to reduce harm to human health resulting from cyanotoxins and HABs in Michigan. EGLE worked with the MDHHS on meeting the goals of the $54K MDHHS grant. In FY 2021, this grant will focus on sampling HABs in recreational waters.

Laboratory Certification

The EGLE laboratory performs a majority of the drinking water compliance sample analyses for chemical and microbiological parameters, while radiological parameters are analyzed by commercial certified laboratories approved by the State. EGLE's Quality Management Plan (QMP) was approved by EPA Region on February 27, 2018 and is valid for 5 years through February 28, 2023; although revision of the QMP by EGLE may be required prior to this date based upon periodic assessments by EPA Region 5 or EGLE's annual internal reviews and/or significant changes within EGLE, such as resources.

An on-site audit of the EGLE laboratory was conducted on April 8 – 12, 2019 by EPA Region 5. Full Certification was issued on November 10, 2020 and will be effective until April 8, 2022. It is important to note that the EGLE laboratory remained operational throughout the Covid-19 pandemic with staff working reduced hours with no impact to the State laboratory's capacity.

In addition, EGLE implements a laboratory certification program in which they certify commercial laboratories in the State. Between the EGLE laboratory and the certified commercial labs, Michigan ensures they have adequate analytical capability. EPA Region 5 is also

responsible for conducting a review of Michigan's Drinking Water Laboratory Certification Program. This review was conducted as part of the April 2019 visit.

A summary of the number of laboratories certified by EGLE in CY 2019 (from the 2020 report) is provided below in Table 15.

Table 15. Number of Laboratories Certified in CY 2019 (from 2020 annual report)*

Number of Laboratories Audited and Certified by Each State Please list the number of drinking water laboratories certified by each state, *excluding those certified by reciprocity.* Separate numbers by In State and (Out of State)				
Chemistry	**Microbiology**	**Radiochemistry**	***Cryptosporidium***	**Asbestos**
58	175	0	0	0

Out of state laboratories are certified by reciprocity only 178 Total Laboratories, 145 are certified for Microbiology only or Microbiology with limited wet chemistry.

Number of Laboratories **Certified through Reciprocity and Other Types of Agreements by Each State** Please list the number of drinking water laboratories certified by each state using reciprocity or other types of agreements. Separate numbers by In State and (Out of State)				
Chemistry	**Microbiology**	**Radiochemistry**	***Cryptosporidium***	**Asbestos**
25	5	13	3	7

**Please note that EGLE did not utilize federal funds to support the Laboratory Certification program during FY 2020.*

As part of primacy approval, Michigan received a signed approval from EPA on August 3, 1993 which included approvable de-certification language. However, since this document had not been codified into State law, the State's ability to de-certify and enforce was found to be difficult or non-existent. EPA Region 5 raised concerns about this and EGLE promulgated new lab certification rules that took effect August 3, 2020. These rules included criteria by which laboratories can have their certification suspended or revoked (R 325.12710 *Suspension or revocation of certification*) and established rules for certification of laboratories for PFAS analysis (R 325.12708 *Certification for PFAS analyses*). The new laboratory certification rules are broader and include new language from the most recent EPA laboratory certification manual, *Manual for the Certification of Laboratories Analyzing Drinking Water*, 5th Edition, EPA 815-R-05-004, January 2005, such as non-reporting, fraud, and unethical conduct. EPA Region 5 appreciates EGLE's efforts to ensure the program is now in-line with the primacy approval.

Currently, the State has certified 8 in-state laboratories and approved reciprocity for 10 out-of-state laboratories for PFAS analyses.

As a result of the Covid-19 pandemic in FY 2020:

- The State continued to conduct some on-site inspections and developed procedures for remote audits that were limited to the second inspection of the audit and were only available to labs in the program with good standing. There were no laboratory capacity issues for any contaminants due to Covid-19 at certified laboratories.

- EGLE resumed on-site inspections under Covid-19 precautions in late FY 2020. EGLE continues to meet the 3-year inspection deadline for existing laboratories; EGLE continues to use virtual inspections for second audit for existing labs in good standing.

The EGLE Laboratory continued to work toward development and implementation of a new Laboratory Information Management System (LIMS) system which is anticipated to go online in FY 2021. The laboratory is working with DWEHD staff to ensure software upgrades will allow for electronic reporting to DWEHD data systems.

EGLE hired a Quality Assurance/Quality Control officer who plans to take the microbiological certification officer training course to provide long-term support to the primary certification officer. The FY 2020 training course was cancelled due to the Covid-19 pandemic, but the individual will take the course once rescheduled. Additionally, another EGLE Laboratory staff completed the chemical certification training to provide back-up to the primary certification officer.

Security

EPA received information with the state's initial primacy application on Michigan's plan for the provision of safe drinking water under emergency circumstances including, but not limited to, earthquakes, floods, hurricanes, and other natural disasters. Michigan EGLE is responsive to PWSs by providing emergency support and assistance and established new procedures in FY 2020 and ensured PWSs received assistance to address COVID-19 issues, as needed.

In FY 2020, EGLE reported the following security-related highlights:

- EGLE provided EPA Region 5 with population served and accurate contact information for all Michigan CWSs subject to AWIA.
- EGLE staff attended EPA's FY 2020 Spill Response Workshop/Table-Top Exercise conducted in Michigan in October 2020 that was re-scheduled due to the Covid-19 pandemic.
- EGLE staff attended EPA's Introduction to Cybersecurity: Workshop and Response Exercise Online in October 2020, which was rescheduled because of the Covid-19 pandemic cancellations in FY 2020.
- EGLE staff attended the EPA AWIA trainings in November and December 2020 that were rescheduled because of the Covid-19 pandemic cancellations earlier in FY 2020.
- EGLE staff participated in periodic EPA Water Security Division (WSD) calls.

EPA Region 5 appreciated EGLE's participation in the AWIA Risk Assessments and Emergency Response Plans training in October 2019 in Chicago. EGLE continues to provide AWIA assistance to PWS.

Attachment 1. Michigan EGLE PWSS Program Measures/Indicators Summary[22]

FY 2020 Program Measures	Target	EOY Status
National Measures		
EPA and the State will work collaboratively to implement the national OW measure and national compliance initiative (NCI) to reduce by 25%, by the end of FY 2022, the number of CWS that are out of compliance with health-based standards as compared to the FY 2017 baseline of 36 CWS. A 25% reduction would be 27 CWS. (Data will be pulled by USEPA quarterly.) *Data source: FY2020.B01_CWS_HB_Viol_count_Oct2020Q3*	FY 2020: N/A	FY 2020: In FY 2020, Michigan EGLE had 17 CWS out-of-compliance (a reduction from FY 2019) with health-based standards, where 9 of the 17 CWSs out-of-compliance have RTC during FY 2020.
Regional Measures		
% of CWSs (systems) meeting all health-based standards *Data Sources: B01 (CWS HB violation count) and EOY.1 (PWS inventory), October 2020.*	**FY 2020: ≥95%** CY 2019: ≥95% FY 2018: 87% FY 2017: 90%	**FY 2020: 98.77% (1,368/1,385)** CY 2019: 98.9% CY 2018: 97.5% CY 2017: 97.5%
% of population of CWS meeting all health-based standards *Data Sources: B01 (CWS HB violation count) and EOY.1 (PWS inventory), October 2020.*	**FY 2020: ≥95%** CY 2019: ≥95% FY 2018: 92% FY 2017: 92%	**FY 2020: 96.54% (7,128,536/7,383,914)** CY 2019: 97.3% CY 2018: 96.7% CY 2017: 97.5%
Percent of CWS and NCWS with san. survey w/in the past 3 or 5 yrs. as required.[23] *Data source: UPDATED_EOY_2_Sanitary Survey Completeness_October2020.xlsx*	FY 2020: 82% CWS 82 % NCWS FY 2019: N/A FY 2018: 82% CWS FY 2017: 79% CWS	**FY 2020 CWS: 89.85% (1,230/1,369)** **FY 2020 NCWS: 95.1% (8,082/8,498)** FY 2019 CWS: 93.7% (1,279/1,365) FY 2019 NCWS: 97.6% (8,406/8,609) FY 2018 CWS: 91.2% (1,247/1,368) FY 2018 NCWS: 97.7% (8,442/8,640) FY 2017 CWS: 91.4% (1,249/1,366) FY2017 NCWS: 98.9 % (8,670/8,769)
Percent of CWS where risk to public health is minimized through source water protection (Michigan EGLE reports to SDWIS/Fed .)	FY 2020: 36% CWS FY 2019: N/A	**SFY 2020: 30% (target not met)** SFY 2019: 29% SFY 2018: 29%

[22] Please note that FY 2019 was a transition year and State-specific targets were not required for the five of the first 7 measures listed in this table. State-specific targets indicated in the FY 2020 PWSS grant workplan are included for reference only.

[23] In the past, EPA Region 5 has evaluated sanitary survey completeness based on calendar year using the April SDWIS/Fed freeze, which includes state data through compliance period ending 12/31 of the previous year. This is the first year EPA Region 5 is evaluating this data based on the October 2020 SDWIS/Fed freeze, which includes state data through 6/30/2020. In addition, EPA's GWR and Interim Enhanced Surface Water Treatment Rule implementation guidance supports the use of full calendar years to evaluate sanitary survey frequency; for example, the guidance indicates that for a survey conducted in June, the state has until December of the next three- (or five-) year cycle (for CWS or NCWS, respectively) to complete the next survey for that system.

Data source: EOY.10 (SWP substantial implementation), October 2020.	FY 2018: 36% FY 2017: 35%	SFY 2017: 27% *SWP is voluntary in MI
Percent of population served by CWS where risk to public health is minimized through source water protection (Michigan EGLE reports to SDWIS/Fed.) *Data source: EOY.10 (SWP substantial implementation), October 2020.*	FY 2020: 70% FY 2019: N/A FY 2018: 70% FY 2017: 81%	**SFY 2020: 72%** SFY 2019: 72% SFY 2018: 72% SFY 2017: 71% *SWP is voluntary in MI
All Rule Violation Completeness Reporting (EPA Region 5 pulls data quarterly.) *Data source: Michigan EGLE reporting*	FY 2020 target: N/A (baseline)	**FY 2020**: Michigan EGLE continues to report more fully each quarter to SDWIS/Fed-ODS, which began in FY 2017. However, EGLE is not able to fully report on all the rules.[24] The delay in SDWIS/Prime has impacted Michigan EGLE's reporting.[25]
CY 2019/CY 2020 Shared Goals Measures[26]	**Target**	**EOY Status**
1. % of NTNCWS meeting all health-based standards	CY 2020-2017: ≥95%	**CY 2020: TBD** CY 2019: 97.9% CY 2018: 99.1% CY 2017: 99.1%
2. % of TNCWS meeting all health-based standards	CY 2020-2017: ≥95%	**CY 2020: TBD** CY 2019: 98.7% CY 2018: 99.7% CY 2017: 99.7%
3. % of population served by CWS with significant /major monitoring violations (includes LCR Type 66 violations)	CY 2020-2017: <5%	**CY 2020: TBD** CY 2019: 6.1% (target not met) CY 2018: 3.8% CY 2017: 9.4% (target not met)
4. % of CWS systems with significant /major monitoring violations (includes LCR Type 66 violations)	CY 2020-2017: <10%	**CY 2020: TBD** CY 2019: 8.6% CY 2018: 8.3% CY 2017: 12.9% (target not met)
5. % of NTNCWS with significant/major monitoring violations for acute health risks	CY 2020-2017: <5%	**CY 2020: TBD** CY 2019: 4.0% CY 2018: 4.3% CY 2017: 10.8% (target not met)

[24] In FY 2020, incomplete reporting was being conducted for the following rules: Stage 2 D/DBPR GWR, RTCR, LCR and PN.
[25] Please note that this table is under-reporting certain violation types. Much of the under-reporting is due to State NCWS database current lack of capability to report certain violation codes, or other issues with rejected reporting.
[26] All shared goals are updated annually in April by EPA Region 5 and reflect CY 2019.

6. % of NTNCWS with significant/major monitoring violations for chronic health risks	CY 2020-2017: <10%	**CY 2020: TBD** CY 2019: 5.4% CY 2018: 4.8% CY 2017: 8.1%
7. % of TNCWS with significant/major monitoring violations	CY 2020-2017: <10%	**CY 2020: TBD** CY 2019: 7.9% CY 2018: 9.2% CY 2017: 20.6% (target not met)

Attachment 2. CWS Data Reporting Issues/Comments

CWS Program ODS Error Corrections

One important component of the quarterly reporting is correcting data errors in a timely manner to ensure high quality data in both SDWIS/State and SDWIS/Fed. The Community program has struggled with correcting two types of Operational Data Store (ODS) errors in a timely manner over the last few fiscal years. "Timely manner" is defined as correcting the error(s) either in the quarter in which the error(s) first appeared on the ODS error report or in the next quarter. These ODS errors include:

1. Source treated code and facility flow errors; and
2. Sanitary survey site visit errors.

Given that these errors were persistent in recent years, the Region has reviewed this information on the ODS error report each quarter to determine if the issues still exist or if they have been corrected in a timely manner. Below is an explanation of Region 5's analysis of data correction improvements during FY 2020.

1. Source Treated Code and Facility Flow Error Correction

The Community program has made great strides in correcting the number of source treated codes and facility flow errors in SDWIS/Fed-ODS during FY 2020. Errors first identified on the August 2017 through November 2019 ODS error reports were corrected with the February 2020 data submission. Subsequent errors have all been corrected in a timely manner. The Region is very appreciative of the Community program clean-up effort during FY 2020.

Below is a table containing the analytical information on the source treated codes and facility flow errors by quarter.

Quarter	Unfixed Errors from Previous Quarter	Number Corrected or Deleted	% Corrected or Deleted	Number Remaining to Be Fixed from Previous Quarter*	% Remaining to Be Fixed from Previous Quarter	Number of New Errors	Number of New Errors Corrected in Timely Manner^	% of New Errors Corrected in Timely Manner	Current Quarter Errors
Q319 (Aug 2019)	20	17	85%	3	15%	7	2	29%	10
Q419 (Nov 2019)	10	2	20%	8	80%	14	14	100%	22
Q120 (Feb 2020)	22	21	95%	1	5%	0	0	N/A	1
Q220 (May 2020)	1	1	100%	0	0%	2	2	100%	2
Q320 (Aug 2020)	2	2	100%	0	0%	12	N/A	N/A+	12

*- All source treated code and facility flow error from Q317 (August 2017) and Q218 (May 2018) have been corrected as of February 2020

^ - Timely manner is defined as corrections being made during the current quarter or the next quarter

+ - Not all data available

2. Sanitary Survey Site Visit Error Correction

The Community program has made good progress in correcting the number of new sanitary survey site visit errors in SDWIS/Fed-ODS since August 2019. Over 70% of the new sanitary survey site visit errors were corrected each quarter in a timely manner. Clean up of older errors still needs to be done. Three out of the twenty-one errors identified on the August 2020 ODS error report first appeared on the August 2017 ODS error report. These errors should have been corrected by now. The three uncorrected site visit errors are for two water systems (MI0002500, visit ids 6 and 8; and MI0003760, visit id 8).

Below is a table containing the analytical information on the sanitary survey site visit errors by quarter.

Quarter	Unfixed Errors from Previous Quarter	Number Corrected or Deleted	% Corrected or Deleted	Number Remaining to Be Fixed from Previous Quarter*	% Remaining to Be Fixed from Previous Quarter	Number of New Errors	Number of New Errors Corrected in Timely Manner^	% of New Errors Corrected in Timely Manner	Current Quarter Errors
Q319 (Aug 2019)	23	19	83%	4	17%	1	1	100%	5
Q419 (Nov 2019)	5	2	40%	3	60%	7	7	100%	10
Q120 (Feb 2020)	10	7	70%	3	30%	7	5	71%	10
Q220 (May 2020)	10	5	50%	5	50%	8	7	88%	13
Q320 (Aug 2020)	13	7	54%	6	46%	15	N/A	N/A+	21

*- There are three site visits from Q317 (August 2017) ODS error report which have not been corrected as of Q320 (August 2020).
^ - Timely manner is defined as corrections being made during the current quarter or the next quarter
+ - Not all data are currently available

The quality of a State's data in SDWIS/State is very important to the State's oversight of its water systems; please continue to ensure data in SDWIS/State is corrected either in the quarter the error(s) first appears on the ODS error report or in the next quarter.

Attachment 3. NCWS Data Reporting Issues/Comments

NCWS Program ODS Error Corrections

Below is a summary of each issue identified in Fall of 2019. Both issues were resolved during FY 2020.

1. Incorrect date for an inactive public water system's deactivation date: WaterTrack did not have a field for a public water system's deactivation date. Former inventory data submittals had a public water system's deactivation date equal to the last update time stamp of the inventory record in WaterTrack. Unfortunately, the last update timestamp date was not migrated into SDWIS/State. The first reported date time stamp was migrated instead. This issue was first identified and reported to the NCWS program when the query "Violation data after a water system's deactivation date" was run and showed over 2,000 public water systems affected. The query results showed no systems prior to the May 2019 data submission. The NCWS program fixed the issue in SDWIS/State immediately but struggled to correct the data in SDWIS/Fed-ODS during the November 2019 data submission period. The data was corrected in SDWIS/Fed-ODS in February of 2020.
2. Open-ended LCR violation federal begin date: In September of 2019, the NCWS program was reviewing the actions ODS error report and found duplicate LCR violation data which could not be explained in SDWIS/State. The Region was consulted and determined that the wrong date for the "federal begin date" was migrated into SDWIS/State. The NonCommunity SDWIS/Fed Coordinator was not aware that some of the LCR violations reported to EPA were based on a violation period (begin date) instead of a compliance period. The Region identified over 170 LCR violations where the violation begin date in SDWIS/Fed-ODS changed in June of 2019. The NCWS program immediately modified the federal violation begin date for the LCR violations in SDWIS/State and submitted an actions correction file to correct the data in SDWIS/Fed-ODS in December of 2019.

Below is a summary of each issue identified in Spring of 2020. These issues are still open.

1. Correcting most or all errors identified on the FedRep and ODS error reports in a timely manner

   The Region is aware of the steep learning-curve a new NonCommunity SDWIS/Fed Coordinator faces when they begin reporting data to U.S. EPA. It usually takes two or more quarters to understand how to run, review, and correct errors identified on the FedRep error reports, and what information is to be submitted to the Region. Reviewing and correcting the errors in SDWIS/State can be challenging. FedRep errors should be corrected prior to submitting the files to the Region. The quality of the State's data in SDWIS/State is very important to the State's oversight of its water systems and time needs to be given to the staff to review and correct the errors when they are identified. In addition, errors identified on the SDWIS/Fed-ODS error report should be corrected in SDWIS/State the quarter the issue/error(s) is identified or by no later than the following quarter after the issue/error(s) is identified. The Region sent an email to the NonCommunity SDWIS/Fed Coordinator in August 2020 requesting that corrections be

completed in a timely manner. This issue will be reviewed each quarter to determine if there is improvement in the timeliness of correcting these errors.

2. Migration of WaterTrack data to SDWIS/State

During the Summer of 2020, the Region noticed the SDWIS/FedRep-ODS error report showed only a handful of violations being deleted each quarter since the February 2020 data submission. This is not usual for the NonCommunity program, especially for the Phase II/V contaminants. In the past, many volatile organic contaminants (VOCs) would be deleted each quarter. This is the result of the way the VOC violations are reported to U.S. EPA; one violation per contaminant, which is 23 violations for one missed sample. Seeing so few deletions makes the Region wonder if WaterTrack and SDWIS/State data are in sync with each other. The Region is requesting staff resources be allocated to compare the data between WaterTrack and SDWIS/State and to update SDWIS/State to reflect what is in WaterTrack. This work should be part of the NonCommunity program's data migration work done each quarter before submitting data to U.S. EPA. The Region has verbally discussed this issue with the new NonCommunity SDWIS/Fed Coordinator, brought it up during the November 5, 2020 Michigan data management update conference call, and further explained this request via email to the State in December of 2020.